

D. C. COOK RO/SRO INITIAL EXAMINATION

DECEMBER 2002

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

*QNUM 001
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL S
*KA 000001A203

*QUESTION

When Rod Control was placed in AUTO during a Unit 2 power escalation the following conditions were noted:

- Nuclear Instrumentation Power Range Channels 15% and rising
- Power Range Low Power Trip NOT Blocked
- Intermediate Range Trip NOT Blocked
- Control rods withdrawing at 64 steps per minute

Which ONE of the following actions are required in accordance with 02-OHP-4022-012-003, Continuous Control Bank Movement?

- a. Trip the reactor if rods do not automatically stop at the 20% Low Power Rod Stop.
- b. Trip the turbine and initiate emergency boration.
- c. Trip the turbine and verify automatic reactor trip.
- d. Trip the reactor if rod motion continues when Rod Control is placed in MANUAL.

*ANSWER

d

*REFERENCE

02-OHP-4022-012-003, Continuous Control Bank Movement

HIGHER

MODIFIED

*QNUM 002
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL B
*KA 000005K202
*QUESTION

The following plant conditions exist:

- Rod H-8 in Control Bank D is at 200 steps.
- The remaining Control Bank D rods are at 219 steps.
- Reactor power is 73%
- A faulty card has been replaced.
- Reactor Engineering has directed that Control Bank D be aligned to Rod H-8.

Which ONE of the following states the action(s) to be taken to perform this recovery?

Open disconnect switch for...

- a. rod H-8, select Control Bank D on rod control, set Group Demand Counters to 200 steps, and reposition Control Bank D.
- b. rod H-8, select Manual on rod control, and reposition Control Bank D. Group Demand Counters do not need to be changed.
- c. Control Bank D rods except H-8, select Bank D on rod control, set Group Demand Counters to 200 steps, and reposition rod H-8.
- d. Control Bank D rods except H-8, select Manual on rod control, and reposition rod H-8. Group Demand Counters do not need to be changed.

*ANSWER

b

*REFERENCE

OHP-4022-012-005, Dropped Or Misaligned Rod, Attachment A.

HIGHER

NEW

*QNUM 003
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL S
*KA 000015A202

*QUESTION

A Component Cooling water leak inside containment has caused reduced flow to the RCPs.
The following conditions exist:

- Unit 1 is at 100% power.
 - Temperatures / RCP # 11 12 13 14
- | | | | | |
|---------------------|-------|-------|-------|-------|
| Motor Bearing | 196°F | 178°F | 189°F | 173°F |
| Lower Bearing Water | 195°F | 184°F | 201°F | 184°F |
| Seal Leakoff | 187°F | 176°F | 177°F | 179°F |
- Ann 107 Drop 52, RCP Vibration High - NOT LIT

Which ONE of the following set of actions must be taken?

- a. Immediately Trip the Reactor, then trip RCP#11.
- b. Open QRV-150, No. 1 Seal Bypass Valve.
- c. Perform a rapid Plant Shutdown and stop RCP#13 within 30 minutes.
- d. Immediately Trip the Reactor, then trip RCP#13.

*ANSWER

a

*REFERENCE

01-OHP-4022-016-001, Malfunction Of The CCW System
01-OHP-4022-002-001, Malfunction Of A Reactor Coolant Pump
HIGHER
MODIFIED

*QNUM 004
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL B
*KA 000024K101

*QUESTION

Following a rapid power reduction from 80% power due to a Feedwater pump trip, the following plant conditions exist on Unit 1:

- Reactor power is 59%.
- Turbine Power is 620 Mwe.
- Rod Control is in MANUAL.
- All other controls in AUTO.
- Feedwater and Steam Flows are equal.
- An Emergency Boration is being performed per 01-OHP-4021-005-007, Operation Of Emergency Boration Flow Paths, due to the ROD BANK D LOW-LOW (Rod Insertion Limit) alarm being lit.

The procedure states "Check for indication of negative reactivity addition."

Given these conditions, which ONE of the following would be used to verify that negative reactivity is being added?

- a. Tref lowering
- b. Tavg lowering
- c. ROD BANK D LOW-LOW alarm clearing
- d. A flow of 44 gpm indicated on QFI-410

*ANSWER

b

*REFERENCE

01-OHP-4021-005-007, Operation Of Emergency Boration Flow Paths
HIGHER
NEW

*QNUM 005
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL B
*KA 000026A107

*QUESTION

The Emergency Remote Shutdown Procedure 2-OHP-4025-R-3-5, Sharing 1E CCW, limits total CCW flow to the CCW Heat Exchangers in BOTH units to no greater than 9,000 GPM, if only one CCW pump is in operation and supplying both units.

This limitation...

- a. ensures sufficient CCW capacity to the UNAFFECTED unit.
- b. precludes placing BOTH units in jeopardy by overloading the operating CCW pump.
- c. minimizes thermal transients on the AFFECTED unit's equipment.
- d. precludes exceeding the design flow limits through BOTH unit's CCW Heat Exchangers.

*ANSWER

b

*REFERENCE

2-OHP-4025-R-3-5, Sharing 1E CCW

2-OHP-4021-016-003, Operation Of CCW System During System Startup and Power Operations

MEMORY

BANK

*QNUM 006
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL B
*KA 000029A113

*QUESTION

The Unit 2 reactor failed to automatically trip when the reactor coolant pumps tripped.

The following conditions exist after a MANUAL Turbine Trip is attempted per 2-OHP-4023-FR-S-1, Response to Nuclear Power Generation/ATWS step 3.

- Turbine Stop Valve Closed Status Lights - 1 and 3 Lit
- Turbine Stop Valve Closed Status Lights - 2 and 4 NOT Lit
- MAIN TURBINE STOP VALVE CLOSED alarm - Lit
- AMSAC INITIATED alarm - Lit

Which ONE of the following is the NEXT action the operator is required to take?

- a. Manually reduce turbine load.
- b. Shut the Main Steam Stop Valves.
- c. Verify AFW Pumps running.
- d. Manually actuate AMSAC.

*ANSWER

a

*REFERENCE

2-OHP-4023-FR-S-1, Response to Nuclear Power Generation/ATWS

HIGHER

MODIFIED

*QNUM 007
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL B
*KA 000029 - EK3.10

*QUESTION

Upon entry into OHP-4023-FR-S-1, Response to Nuclear Power Generation/ATWS, which ONE of the following is the fastest method of adding negative reactivity to the core prior to locally opening the Reactor Trip breakers?

- a. Manual insertion of control rods
- b. Initiation of Emergency Boration
- c. Manual actuation of Safety Injection
- d. Initiation of maximum AFW flow to the SGs

*ANSWER

a

*REFERENCE

OHP-4023-FR-S-1, Response to Nuclear Power Generation/ATWS
MEMORY
BANK

*QNUM 008
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL S
*KA 000040 2.4.18

*QUESTION

During a secondary side fault, following completion of Steam Generator blow down, it is important to minimize and control the amount of RCS heatup in OHP-4023-ES-1-1, SI Termination, to prevent:

- a. PZR overfill and water relief through the PZR PORVs and avoid exceeding tech spec heatup limits.
- b. exceeding minimum DNBR limits and limit the DP across the faulted SG tubes.
- c. exceeding minimum DNBR limits and avoid exceeding tech spec heatup limits.
- d. PZR overfill and water relief through the PZR PORVs and limit the DP across the tubes of the faulted SG.

*ANSWER

d

*REFERENCE

RO-C-EOP07, Secondary Side Breaks, E-2 Series EOPs, and Background Information
MEMORY
BANK

*QNUM 009
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 000055A205

*QUESTION

A station emergency battery is supplying DC bus loads without a battery charger online. If the equipment on the DC bus does NOT change, which ONE of the following statements describes a vital battery's discharge rate (amps) as the battery is expended?

- a. The discharge rate will be fairly constant until the design battery capacity (amp-hours) is exhausted and then will rapidly decrease.
- b. The discharge rate will increase steadily until the design battery capacity is exhausted.
- c. The discharge rate will decrease steadily until the design battery capacity is exhausted.
- d. The discharge rate will initially decrease until approximately 50% design capacity had been expended and then increase until the battery has been exhausted.

*ANSWER

b

*REFERENCE

RO-C-ES01, Basic DC Circuits

HIGHER

BANK

*QNUM 010
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000055K102
*QUESTION

Given the following Unit 1 plant conditions:

- 1-OHP-4023-ECA-0-0, Loss of All AC Power, is in effect.
- Depressurization of Unit 1 steam generators is in progress.

1-OHP-4023-ECA-0-0, step 19 requires the depressurization to be stopped if at least one SG narrow range level cannot be maintained greater than 8%.

Which ONE of the following is the concern behind this requirement?

- a. Loss of adequate heat sink due to reduced heat transfer area
- b. PTS due to excessive cooldown
- c. RCS voiding due to rapid depressurization
- d. Loss of natural circulation due to accumulator nitrogen injection

*ANSWER

a

*REFERENCE

12-OHP-4023-ECA-0-0, Loss of All AC Power Background

MEMORY

BANK

*QNUM 011
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000059K301
*QUESTION

Given the following:

- Unit 2 is operating at full power.
- A HIGH alarm is received on R-19, SG Blowdown Sample Radiation monitor.

Which ONE of the following describes automatic response of the Blowdown System to this alarm?

- a. Blowdown discharge isolation (DRV 350) trips closed, Blowdown Sample Isolation valves (DCR 301 - 304) trip closed.
- b. Blowdown discharge isolation (DRV 350) trips closed, Blowdown Sample Isolation valves (DCR 301 - 304) remain open.
- c. Blowdown treatment pump trips, Blowdown Containment Isolation valves (DCR 310 - 340) trip closed.
- d. Blowdown treatment pump trips, Blowdown Containment Isolation valves (DCR 310 - 340) remain open.

*ANSWER

a

*REFERENCE

02-OHP-4024-238, Annunciator #238 Response: RMS Electro-Larm, Drop 12

MEMORY

BANK

*QNUM 012
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000062 - 2.4.24

*QUESTION

Which ONE of the following describes a procedural requirement of 02-OHP-4022-019-001, ESW System Loss / Rupture, in the event that ESW cannot be IMMEDIATELY restored?

- a. Open the doors to the Motor Driven Auxiliary Feedwater Pump rooms.
- b. Stop all Upper Containment Ventilation fans.
- c. Place both CTS Pumps in Pull-to-lock.
- d. Stop all Control Room Air Conditioning Units and place system in ISOLATE.

*ANSWER

a

*REFERENCE

02-OHP-4022-019-001, ESW System Loss / Rupture

MEMORY

BANK

*QNUM 013
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000067A109
*QUESTION

While operating at full power, the operators in Unit 1 Control Room respond to the following:

- Annunciator Panel 101 / Drop 41, 'FIRE' alarm.
- Annunciator Panel 101 / Drop 94, 'REACTOR COOLANT PUMP FIRE OR ABN' alarm.
- Below the #11 RCP control switch, the operators note the following status lights LIT:
 - (White) OPEN/LEAK
 - (Red) FIRE

Which ONE of the following describes the status of the #11 RCP fire protection system?

- a. NESW water is being sprayed on #11 RCP.
- b. #11 RCP fire protection system is ready for manual initiation.
- c. Fire Suppression System water is being sprayed on #11 RCP.
- d. #11 RCP fire protection system will automatically initiate spray water to the RCP approximately 2 minutes after the red and white lights both illuminate.

*ANSWER

b

*REFERENCE

01-OHP-4024-101, Annunciator #101 Response: Plant Fire System, Drops 41 and 94
01-OHP-4022.66.001, RCP Fire Protection System Actuation
RO-C-AS17, Water Fire Protection
HIGHER
BANK

*QNUM 014
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000067A207
*QUESTION

Given the following:

- Unit 1 is in Mode 5.
- The U-1 AB EDG is available.
- The U-1 CD EDG is available.
- The U-1 East Motor Driven AFW pump is available.
- The U-1 West Motor Driven AFW pump is Tagged Out

- Unit 2 is in Mode 1.
- The U-2 East AFW Pump is Tagged Out for discharge valve replacement.

- All other equipment is operable.

Maintenance requests to tag out the U-1 CD EDG for a Governor replacement.

Without any compensating measures (fire watches), would this be allowed or disallowed per the requirements of 01-OHP-4030-066-4025, Unit 1 Appendix R and Ventilation Requirements for Unit 2 surveillance and why?

- a. Allowed, because either U-1 EDG is acceptable per the Appendix R Surveillance.
- b. Allowed, because NO U-1 EDG power is required as long as an AFW pump from each train is available (U-2 West and U-1 East).
- c. Disallowed, because the U-1 CD EDG is required to support the U-1 East AFW pump availability to U-2 since a U-2 fire could cause a loss of Unit 1 Offsite power.
- d. Disallowed, because the U-1 CD EDG is required to support the U-1 East AFW pump availability to U-2 whenever the U-2 East AFW pump is inoperable.

*ANSWER

c

*REFERENCE

01-OHP-4030-066-4025, U-1 Appendix R and Ventilation Requirements for U-2, Attachment 17
page 44
HIGHER
NEW

*QNUM 015
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000069K101

*QUESTION

The operators are performing OHP-4023-FR-Z-1, Response to High Containment Pressure, in response to containment pressure of 4.6 psig during an accident.

The operators are required to check if feedwater should be isolated to any SG in order to:

- a. prevent possible SG overfill from over pressurizing the steamlines.
- b. raise containment integrity by reducing the number of open penetrations.
- c. minimize containment pressure rise due to faulted SG(s).
- d. reduce the potential for causing a feed line break due to thermal stresses.

*ANSWER

c

*REFERENCE

12-OHP-4023-FR-Z-1, Response to High Containment Pressure Background
MEMORY
BANK

*QNUM 016
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000069K203

*QUESTION

Which ONE of the following conditions represents a LOSS of CONTAINMENT INTEGRITY in accordance with Technical Specification 3.6.1.1, Containment Integrity?

- a. While in MODE 1, an electrician opens the outer airlock door at the lower containment access without prior approval.
- b. While in MODE 3, during an inspection of an equipment hatch, it is determined that the equipment hatch is NOT sealed.
- c. While in MODE 4, Containment internal pressure is found to be -0.5 psig prior to placing Containment Purge in service.
- d. While in MODE 5, during performance of the Overall Integrated Containment Leakage Rate Test, Containment leakage exceeds the maximum allowable Technical Specification leakage rates.

*ANSWER

b

*REFERENCE

Tech Spec 1.8.2

MEMORY

MODIFIED

*QNUM 017
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000074 2.4.29
*QUESTION

Given the following:

- A 800 gpm LOCA has occurred on Unit 1.
- A number of failures occurred with ECCS equipment which resulted in Core Exit Temperatures reaching 1255°F 20 minutes ago.
- Restoration efforts have been ineffective so far.
- Containment radiation level is 2.37 R/Hr.
- Containment Pressure is 4.6 psig.
- DAP is inoperable.

Which ONE of the following represents the correct Emergency Plan Classification and impact to the fission product barriers? (PMP-2080-EPP-101, Emergency Classification, attached)

- a. Alert due to LOSS of RCS. Cladding and Containment are INTACT.
- b. Site Area Emergency due to LOSS of RCS and POTENTIAL LOSS of Cladding. Containment is INTACT.
- c. General Emergency due to POTENTIAL LOSS of RCS, LOSS of Cladding, and LOSS of Containment.
- d. General Emergency due to LOSS of RCS, LOSS of Cladding, and POTENTIAL LOSS of Containment.

*ANSWER

d

*REFERENCE

PMP-2080-EPP-101, Emergency Classification

HIGHER

NEW

*QNUM 018
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000074A205
*QUESTION

The following conditions exist:

- The Unit 1 reactor tripped 10 minutes ago and a LOCA is in progress.
- RCS wide range pressure is 1800 psig and slowly lowering.
- No CCPs are running.
- RCS Core Exit Temperatures are 755°F.
- Containment pressure is 3.5 psig and stable.
- PZR level is 56% and rising.
- RWST level is 55% and lowering.

With these indications, PZR level is ...

- a. NOT a valid indication of RCS inventory and RWST level is as expected at this point in the accident.
- b. NOT a valid indication of RCS inventory and RWST level is lower than expected at this point in the accident.
- c. a valid indication of RCS inventory but RWST level is lower than expected at this point in the accident.
- d. a valid indication of RCS inventory and RWST level is as expected at this point in the accident.

*ANSWER

b

*REFERENCE

SOD-00800-001, ECCS-Injection Phase; SOD-00901-001, Containment Spray System

HIGHER

NEW

*QNUM 019
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE02 - EA1.1

*QUESTION

A Safety Injection (SI) occurred 20 minutes ago due to a large break LOCA, with a failure of reactor trip breaker "B" to open. Which ONE of the following describes the SI signal response after pushing both SI reset pushbuttons?

- a. "A" train SI is reset, and "B" train SI is NOT reset.
- b. Both "A" train and "B" train SI's are reset.
- c. Neither "A" train nor "B" train SI's is reset.
- d. "B" train SI is reset, and "A" train SI is NOT reset.

*ANSWER

a

*REFERENCE

SOD-1100-002, SSPS Hardware

HIGHER

DIRECT

*QNUM 020
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE02 - EK2.2

*QUESTION

A steam line break has occurred on Unit 1 SG #11. The break was isolated and Safety Injection (SI) has just been terminated. The following plant conditions exist:

- East CCP aligned to VCT with normal charging and letdown in service
- SI and RHR pumps shutdown
- RCPs are stopped
- Pressurizer pressure = 1800 psig and rising
- Pressurizer level = 64% and rising
- RCS Core Exit temperature = 533°F and rising
- Containment pressure = 0.1 psi
- SG levels (NR) 0%(#11), 13%(#12), 20%(#13), 20%(#14)
- SG pressures (psig) 0 (#11), 825(#12), 830(#13), 830(#14) and stable

Which ONE of the following actions are required for plant recovery and why?

- a. Raise AFW flow to stabilize the heatup to prevent pressurizer overflow.
- b. Raise Charging flow to raise the Pressurizer level to 82% to enable RCP start.
- c. Reinitiate High Head SI flow to stop the heatup.
- d. Close SG PORVs to allow plant to return to normal temperature and pressure.

*ANSWER

a

*REFERENCE

OHP-4023-ES-1-1, SI Termination Background

HIGHER

NEW

*QNUM 021
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE06 - EK1.1
*QUESTION

Given the following:

- The crew has entered OHP-4023-FR-C-2, Response to Degraded Core Cooling.
- RCS Hot Leg Temperatures are 300°F.
- RVLIS NR indication 37%.

Which ONE of the following would be most effective in restoring core cooling?

- a. Depressurizing SGs to Atmospheric Pressure.
- b. Aligning BIT flow from the Opposite Unit.
- c. Starting a Residual Heat Removal Pump.
- d. Starting a Reactor Coolant Pump.

*ANSWER

c

*REFERENCE

12-OHP-4023-FR-C-2, Response to Degraded Core Cooling Background

HIGHER

MODIFIED

*QNUM 022
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 00WE09 - EA1.3
*QUESTION

The following conditions exist:

- Reactor has tripped from 100% power due to a loss of off-site power.
- Natural circulation has been verified.

Which ONE of the following describes the response of core Delta T if the plant remains in hot shutdown?

- a. Delta T will lower due to the smaller heat generation over time.
- b. Delta T will rise as the water in the SGs heats up.
- c. Delta T will rise due to lack of cooling to the upper vessel head.
- d. Delta T will lower due to the addition of cold AFW to the SGs.

*ANSWER

a

*REFERENCE

RO-C-EOP03, Plant Trips, Diagnosing Accidents, Natural Circulation Cooldown, E-0 Series EOPs, and Background Information
Memory
Bank

*QNUM 023
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE09 - EK3.2
*QUESTION

Unit 2 operators are performing 2-OHP-4023-ES-0-2, Natural Circulation Cooldown.

- 2-OHP-4023-ES-0-2, Natural Circulation Cooldown, has been entered because offsite power had been lost.
- The EDGs started and energized the AC emergency buses.
- The CRDM cooling fans cannot be manually loaded onto the AC emergency buses.
- Condensate Storage Tank water inventory is adequate for the cooldown.

Which ONE of the following describes HOW the inoperability of the CRDM fans affects the cooldown and depressurization?

- a. It has no effect because the amount of RCS heat removed by running the CRDM fans is insignificant compared to the heat removed by steaming the secondary plant.
- b. The total upper head area cooldown rate will be less, so greater subcooling must be maintained.
- c. Transition to 2-OHP-4023-ES-0-3, Natural Circulation Cooldown with Steam Void in Vessel, will be required because cooldown and depressurization will cause formation of a void in the upper head area.
- d. Less subcooling should be maintained to enhance the cooldown of the upper head area, which reduces the formation of voids.

*ANSWER

b

*REFERENCE

02-OHP-4023-ES-0-2, Natural Circulation Cooldown, step 14

HIGHER

Bank

*QNUM 024
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE10 - EK2.2

*QUESTION

The second step of OHP-4023-ES-0-3, Natural Circulation Cooldown With Steam Void in Vessel, directs the operator to try to start a Reactor Coolant Pump in accordance with OHP-4023-SUP-010, Starting Reactor Coolant Pump(s). Assuming that RVLIS indicates less than full, why is Pressurizer Level required to be raised to 82% prior to starting a RCP?

- a. Ensure that the RCP will have sufficient Net Positive Suction Head for the given plant conditions.
- b. Ensure that when the RCP is started a subsequent decrease in Pressurizer Level will not uncover the heaters and/or result in a loss of pressure control.
- c. Ensure that there is sufficient mass in the Pressurizer to fill the vessel head should a bubble form, to prevent allowing saturated fluid from entering the SG tubes.
- d. Ensure that the Pressurizer will be able to maintain RCS pressure high enough to prevent Nitrogen injection from the Accumulators.

*ANSWER

b

*REFERENCE

OHP-4023-ES-0-3, Natural Circulation Cooldown With Steam Void in Vessel
02-OHP-4023-SUP-010, Starting Reactor Coolant Pump(s)
Memory
Bank

*QNUM 025
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 00WE14 - 2.4.4

*QUESTION

Unit 2 is experiencing a LOCA and the STA monitoring the Critical Safety Functions notes the following indications:

- WR log power 0%
- WR startup rate Negative
- Containment Pressure 13 psig
- CETC's 5 highest 760°F
- RVLIS Narrow Range 76%
- Pressurizer Level 0%
- RCS Pressure 480 psig
- AFW Flow 300 x103 pph

S/G #21 #22 #23 #24

- Narrow Range S/G Levels 12% 15% 16% 12%

Given the conditions described above, to which ONE of the following procedures should the SRO transition?

- a. 2-OHP-4023-FR-C-2, Response to Degraded Core Cooling
- b. 2-OHP-4023-FR-I-2, Response to Low Pressurizer Level
- c. 2-OHP-4023-FR-Z-1, Response to High Containment Pressure
- d. 2-OHP-4023-FR-H-1, Response to Loss of Secondary Heat Sink

*ANSWER

c

*REFERENCE

OHI-4023, Abnormal /Emergency Procedure User's Guide; Critical Safety Function Status
Trees
HIGHER
NEW

*QNUM 026
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE14K31
*QUESTION

Given the following:

- A LOCA occurred on Unit 2 thirty minutes ago.
- The STA has just identified an orange path for Containment Pressure.
- The crew has transitioned to 2-OHP-4023-FR-Z-1, Response To High Containment Pressure, from 2-OHP-4023-E-1, Loss Of Reactor Or Secondary Coolant.
- ONLY one Train of ECCS pumps are operating.
- Operating RHR and CTS pump suction are aligned to the recirculation sump.
- Step 4 of 2-OHP-4023-FR-Z-1 directs the crew to "Check if RHR Spray is Required".

Based on the indications above, which ONE of the following would best describe the required action and reason for the decision?

- a. Place RHR spray in service since all of the requirements are met.
- b. Place RHR spray in service only after RHR has injected for 50 minutes to ensure adequate core cooling.
- c. Do NOT place RHR spray in service because the RHR pump suction is not aligned to the RWST.
- d. Do NOT place RHR spray in service because only one RHR pump is operating.

*ANSWER

b

*REFERENCE

12-OHP-4023-FR-Z-1, Response To High Containment Pressure Background
HIGHER
BANK

*QNUM 027
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000007 2.4.48
*QUESTION

Given the following:

- A Reactor trip from 100% power has occurred on Unit 1.
- 1-OHP-4023-E-0, Reactor Trip Or Safety Injection, is being implemented.
- Containment pressure is 0.6 psig and stable.
- SG NR Levels are offscale low.
- RCS pressure is 2150 psig and lowering.
- Control Rod H-8 is indicating 32 steps.
- All systems responded normally to actuation signals.

Which ONE of the following actions should be taken?

- a. Transition to 01-OHP-4023-ES-0-1, Reactor Trip Response, and initiate boration for the stuck rod.
- b. Transition to 01-OHP-4023-ES-0-1, Reactor Trip Response. Rod H-8 condition is expected so boration is not required for a stuck rod.
- c. Initiate Safety Injection and continue with 01-OHP-4023-E-0, Reactor Trip Or Safety Injection, as pressurizer pressure is too low.
- d. Initiate Safety Injection and continue with 01-OHP-4023-E-0, Reactor Trip Or Safety Injection, as Steam Generator levels are too low.

*ANSWER

a

*REFERENCE

01-OHP-4023-E-0, Reactor Trip Or Safety Injection; 01-OHP-4023-ES-0-1, Reactor Trip Response

HIGHER

NEW

*QNUM 028
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000007A109
*QUESTION

Unit 2 has just tripped from 100% power.

Which ONE of the following would be the expected combination of INDICATIONS for CVCS and Pressurizer Level immediately following the trip?

	QFI-200 (Charging Flow)	PZR Level Trend	QFI-301 (Letdown Flow)
a.	Lowering	Lowering	Same
b.	Rising	Rising	Lower
c.	Lowering	Rising	Same
d.	Same	Lowering	Lower

*ANSWER

a

*REFERENCE

SOD-00202-003, Pressurizer Level Control System; Tech Data Book, Figure 2-FIG-2-3, Pressurizer Water Level Program

MEMORY

NEW

*QNUM 029
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000027K203
*QUESTION

Given the following:

The plant is at full power.

- Pressurizer pressure is being controlled in AUTOMATIC with the Pressurizer Pressure Control Selector to the Channel ½ position.
- I&C has just completed working on Channel 3 (NPP-153) and requests that control be transferred to Channel 3 to verify proper operation of the channel with the controller.
- Currently, NPP-153 indicates 2350 psig.

Which ONE of the following would be the immediate effect if the operator placed the Pressurizer Pressure Control Selector to the Channel 2/3 position under these conditions?

- a. Pressurizer HI PRESS alarm would actuate. The Spray valves and heaters are NOT affected.
- b. Spray valves would both fully OPEN and cycling heaters would ENERGIZE.
- c. Spray valves would both fully OPEN and cycling heaters would DE-ENERGIZE.
- d. Pressurizer HI PRESS alarm would actuate. PORV NRV-153 would open.

*ANSWER

c

*REFERENCE

SOD-00202-002, Pressurizer Pressure Control System
MEMORY
MODIFIED

*QNUM 030
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000027K301
*QUESTION

Given the following:

- A Group pressurizer heaters are out of service.
- A Heatup of the RCS (currently at 485°F) is in progress.
- Pressurizer pressure is currently at 700 psig with all C Group backup heaters ON and both pressurizer spray valves THROTTLED to 20% open.

A transformer fault causes a loss of power to the C Group pressurizer heaters. What actions are required regarding the pressurizer spray valves and RCS Heatup?

Pressurizer Spray valves ...

- a. may remain throttled. The heatup may continue because pressure will continue to rise with the RCS heatup.
- b. should be closed and the heatup stopped. Pressure will gradually lower due to the spray bypass and heat losses.
- c. should be closed. The heatup may continue because pressure will continue to rise with the RCS heatup.
- d. may remain throttled if pressurizer level is raised to maintain pressure. The heatup should be stopped because pressure can not be raised.

*ANSWER

b

*REFERENCE

RO-C-00202, Pressurizer Pressure and Level Control Lesson Plan

MEMORY

NEW

*QNUM 031
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000032K201
*QUESTION

Unit 2 is in MODE 3 with the following conditions:

- Tave 547°F
- Pressurizer pressure - 2235 psig
- Reactor trip breakers - CLOSED
- Source range counts - 52 cps (N31) and 55 cps (N32)
- ALL Control Rod Banks are INSERTED

An MTI technician is troubleshooting power source problems with the NIS drawers that were noted a few days earlier following a reactor trip. During the troubleshooting activities, the following indications are received at the main control boards:

- Panel 210 Drop 46 REACTOR BREAKERS TRIP actuates.
- Panel 210 Drop 2 SOURCE RANGE DETECTOR VOLT FAILURE actuates.
- Panel 210 Drop 3 SOURCE RANGE HIGH FLUX AT SHUTDOWN actuates.
- Source range counts: 52 cps (N31), 0 cps(N32)
- Reactor Trip breakers indicate OPEN.

Which ONE of the following describes what the MTI technician did?

- a. pulled the CONTROL POWER fuses for N32 .
- b. pulled the INSTRUMENT POWER fuses for N32 with the Level Trip switch in BYPASS.
- c. activated the RPS input for the SOURCE RANGE BLOCK.
- d. removed power simultaneously to TWO Power Range channels.

*ANSWER

a

*REFERENCE

SOD-001300-004, Source Range Instrument
HIGHER
BANK

*QNUM 032
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000037K102

*QUESTION

During power operation, SG tube leakage was detected and estimated at 50 gpm when RCS pressure was 2200 psig and SG pressure was 800 psig. The plant was shutdown and a cooldown initiated.

Which ONE of the following is the approximate current leak rate if RCS pressure is 1700 psig and SG pressure is 1000 psig? Assume the break size has not changed.

- a. 50% of the initial leak rate (~25 gpm)
- b. 70% of the initial leak rate (~35 gpm)
- c. 141% of the initial leak rate (~70 gpm)
- d. equal to the initial leak rate (~50 gpm)

*ANSWER

b

*REFERENCE

RO-C-EOP05, SI Termination, ECCS Flow Reduction, and SI Re-initiation and Actuation
RO-C-GF27, Sensors and Detectors
HIGHER
MODIFIED

*QNUM 033
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000037K302

*QUESTION

Annunciator Panel 139 (Response: Radiation) Drop # 8 Steam Jet Air Ejector Monitor 1900 has the operator plot the reading from Channel SRA-1905 in the event of a HIGH or ALERT alarm.

Which ONE of the following is the reason for plotting the radiation monitor readings?

- a. This channel does not get automatically recorded so it must be manually plotted whenever it is in alarm.
- b. If the plot shows no change after the initial rise then adjust sample flow rate to setpoint.
- c. If the plot is a straight line it is confirmation that the monitor has been contaminated and leakage does not exist.
- d. If the plot shows a high rate of change in leak rate, a rapid shutdown will be performed in an attempt to limit the leakage.

*ANSWER

d

*REFERENCE

12-OHP-4024-139, Annunciator #139 Response: Radiation, Drop #8

MEMORY

NEW

*QNUM 034
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000038A116

*QUESTION

Unit 2 control room operators are responding to the symptoms of a SGTR. The ruptured SG PORV controller setpoint is adjusted to 1040 psig to...

- a. minimize atmospheric releases and prevent lifting of the code safety valves.
- b. prevent unmonitored releases by keeping the SG PORV from lifting.
- c. prevent steam generator over pressurization due to overfilling of ruptured steam generator.
- d. stabilize ruptured SG pressure and level to prevent an uncontrolled cooldown of the RCS.

*ANSWER

a

*REFERENCE

ERG-HP Background; 12-OHP-4023-E-3, Steam Generator Tube Rupture Background
2-OHP-4023- E-3, Steam Generator Tube Rupture

MEMORY

BANK

*QNUM 035
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000038K103
*QUESTION

The control room operators are responding to a SGTR. They have identified and isolated the ruptured S/G.

During the briefing for the initial RCS cooldown, the SRO states that the RCPs should be stopped and natural circulation should be established prior to the cooldown.

The RO states that the RCPs should remain running and forced reactor coolant circulation should be used during the cooldown.

Which ONE of the following identifies which crew member is correct and why?

- a. The RO -- because with a SG tube rupture, natural circulation conditions will be difficult to establish.
- b. The RO -- because forced circulation will reduce susceptibility to pressurized thermal shock and minimize boron dilution concerns.
- c. The SRO -- because once natural circulation is established the ruptured SG will not cooldown and depressurize thereby limiting the total amount of leakage.
- d. The SRO -- because natural circulation will preclude any damage to the RCP's and minimize RCS pressure perturbations.

*ANSWER

b

*REFERENCE

RO-C-EOP08, SGTRs, E-3 Series EOPs, and Background Information
HIGHER
MODIFIED

*QNUM 036
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000054A102
*QUESTION

Unit 1 Reactor is at 4% power in preparation for Turbine startup with the following conditions:

- West Main Feedwater pump is tripped.
- East Main Feedwater pump is operating.
- AFW pumps are shutdown and aligned for automatic operation.
- AMSAC is aligned in NORMAL.
- Narrow range steam generator levels are now 44%.
- Steam Dumps indicate 8% open.

Which ONE of the following statements correctly describes the AFW pump status immediately after the East Main Feedwater Pump trips?

- a. The Motor Driven and Turbine Driven AFW pumps must be manually started.
- b. The Motor Driven AFW Pumps have auto started but the Turbine Driven AFW pump must be manually started.
- c. The Turbine Driven AFW Pump has auto started but the Motor Driven AFW pumps must be manually started.
- d. The Motor Driven and Turbine Driven AFW pumps have auto started.

*ANSWER

b

*REFERENCE

01-OHP-4022-055-001, Loss of Main FW Pump; 01-OHP-4021-001-006, Power Escalation;
SOD-05600-001, Auxiliary Feed System

HIGHER

NEW

*QNUM 037
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 000060 2.3.10

*QUESTION

Which ONE of the following statements is the reason for suspending additions to a Waste Gas Decay Tank when it contains >43,800 curies noble gas?

- a. To prevent an uncontrolled release of the tank contents from exceeding 500 mrem whole body dose at the site boundary.
- b. To prevent an uncontrolled release of the tank contents from exposing the plant operators to greater than 100 DAC - Hours.
- c. To ensure the radioactive gas concentration does not exceed the 10CFR20 Federal Storage Limits.
- d. To ensure the radioactive gas concentration does not exceed the tank instrumentation calibration limitations.

*ANSWER

a

*REFERENCE

Tech Spec Bases 3.11.2.2

MEMORY

BANK

*QNUM 038
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000060K104

*QUESTION

A gaseous release from the auxiliary building is indicated on the same channel of both unit vent monitors.

Which ONE of the following describes the flow rate that should be input into the Dose Assessment Program in order to predict the resulting radiological exposure?

- a. Sample flow rate of the highest reading vent monitor.
- b. Vent flow rate of the highest reading vent monitor.
- c. Vent flow rate of each vent monitor.
- d. Sum of the vent flow rates being monitored.

*ANSWER

c

*REFERENCE

PMP-2080-EPP-108, Initial Dose Assessment; ST-C-EP07, Initial Dose Assessment
MEMORY
BANK

*QNUM 039
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000061A203

*QUESTION

In Unit 2 Control Room during normal at power operations, the Reactor Operator notices that the Control Room Ventilation System has automatically re-aligned, although no alarms were received. He reports that the following conditions exist:

2-HV-ACRDA-1:	Outside Air AHU Damper	CLOSED
2-HV-ACRDA-1A:	Outside Air AHU Damper	CLOSED
2-HV-ACRDA-2:	Outside Air to Przn Fltr Damper	PARTIALLY OPEN
2-HV-ACRDA-3:	CR Air to Przn Filter Recirc Damper	OPEN
2-HV-ACRDA-2A:	Outside Air to Przn Fltr Damper	CLOSED
2-HV-ACRF-1:	Control Rm Przn Fan	RUNNING
2-HV-ACRF-2:	Control Rm Przn Fan	RUNNING

Which ONE of the following areas should be the focus of troubleshooting the lack of alarms?

- Toxic Gas Control Room Ventilation Isolation actuation
- HIGH Radiation alarm on ERA-8401, Unit 2 Control Room Local Area Monitor
- Control Room Cable Vault Halon or CO2 actuation
- HIGH Radiation alarm on VRS-2500, Unit Vent Effluent Monitor

*ANSWER

b

*REFERENCE

12-OHP-4024-139, Annunciator #139 Response: Eberline Radiation, Drop 15
HIGHER
NEW

*QNUM
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000065 2.1.7

*QUESTION

During performance of OHP-4022-064-002, Loss Of Control Air Recovery, you are preparing to initiate a cooldown and depressurization. The procedure contains a caution pertaining to Safety Injection (SI).

The SI referred to in this caution may be caused by:

- a. high containment pressure due to a rupture of the PRT from operation of the PORVs.
- b. high containment pressure due to a loss of ventilation.
- c. steamline differential pressure due to uneven cooling of the Steam Generators.
- d. low RCS pressure due to loss of Pressurizer pressure control.

*ANSWER

c

*REFERENCE

OHP-4022-064-002, Loss Of Control Air Recovery
MEMORY
MODIFIED

*QNUM 041
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000065A203

*QUESTION

The MUP operator reports a large air leak on the Plant Air Header south of PRV-11 (Unit 1 Ring Header Isolation valve) AND North of PRV-21 (Unit 2 Ring Header Isolation valve). The Unit-1 Plant Air Compressor (PAC) is running with the Unit-2 PAC in standby.

Which ONE of the following conditions will result? Assume NO operator action taken and NO other equipment failed.

- a. The Unit 2 PAC starts and even though the ring header isolation valves close, both units control air headers continue to be supplied by the PACs.
- b. The ring header isolation valves will close, and both units Control Air Compressors start and supply their respective units' control air headers.
- c. The ring header isolation valves will close, but will NOT isolate the unit control air systems from the leak and both reactors must be manually tripped.
- d. The Unit 1 ring header isolation valves close isolating the leak so that the Unit 1 PAC can continue to supply Unit 1 control air. The Unit 2 PAC starts to supply Unit 2 control air.

*ANSWER

b

*REFERENCE

SOD-06401-002, Plant Air System

HIGHER

BANK

*QNUM 042
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE11A22

*QUESTION

A LOCA is in progress and both recirculation sump suction valves (ICM 305 and ICM 306) failed to open while transferring to cold leg recirculation. The crew is currently at step 12.b. RNO of OHP-4023-ECA-1-1, Loss of Emergency Coolant Recirculation.

This step directs the crew to establish minimum ECCS flow to remove decay heat per Figure 1. This is to be accomplished by manually aligning ECCS pumps and throttling BIT discharge to cold leg valves as necessary.

Given the following:

- RWST level is 18% and lowering.
- East CCP, South SI & West RHR pumps are running.
- RCS Pressure is 340 psig.
- Minimum ECCS Flow Required per Figure 1 is 280 gpm.

Which ONE of the following describes how this flow will be established?

- a. Shutdown RHR Pumps and throttle BIT to 280 gpm of combined CCP and SI pump flow.
- b. Shutdown CCP and SI Pumps. RHR pump flow should be about 280 gpm at this pressure.
- c. Shutdown SI and RHR Pumps. CCP flow should be about 280 gpm at this pressure without throttling the BIT.
- d. Shutdown SI and RHR Pumps and throttle BIT to 280 gpm of CCP flow.

*ANSWER

d

*REFERENCE

OHP-4023-ECA-1-1, Loss of Emergency Coolant Recirculation
UFSAR Table 6.2-5 Design Parameters - ECCS pumps
SOD-00800-001, Emergency Core Cooling System - Injection Phase
HIGHER
NEW

*QNUM 043
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 00WE16A22
*QUESTION

Given the following:

- A LOCA that resulted in significant core damage occurred 1.5 hours ago.
- Containment radiation levels rose to a peak of 950,000 R/hr at 20 minutes and have just decreased to 90,000 R/hr.
- Peak containment pressure was 6.2 psig and has been lowering since the peak to the current value of 4.0 psig.

Which ONE of the following describes the effect of containment parameters on implementation of the EOPs?

Adverse containment conditions ...

- a. exist due to the current containment radiation dose rate.
- b. previously existed because of containment radiation levels and pressure. Adverse values must be used until the integrated dose has been evaluated for lasting effects.
- c. previously existed because of containment radiation levels and pressure. Adverse values are no longer required because of the limited integrated dose and pressure reduction.
- d. exist due to the current containment pressure.

*ANSWER

b

*REFERENCE

OHI-4023, Abnormal / Emergency Procedure User's Guide, Attachment 2

HIGHER

MODIFIED

*QNUM 044
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 00WE16 - EK2.1

*QUESTION

Which ONE of the following will result in the generation of a Containment Ventilation Isolation (CVI) signal on a HIGH Alarm?

- a. Upper containment area radiation monitors, VRS-1101/1201
- b. Unit vent effluent high range noble gas radiation monitor, VRS-1509
- c. Lower Containment high range area monitors, VRA-1310/1410
- d. Unit vent effluent low range noble gas radiation monitor, VRS-1505

*ANSWER

a

*REFERENCE

12-OHP-4021-013-006, Operation of the Eberline Radiation Monitoring System Control Terminal

SD-01350-001, Radiation Monitor System Details

MEMORY

BANK

*QNUM 045
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 000028 2.2.22
*QUESTION

Given the following plant conditions:

- The plant is operating at 6% power preparing for Turbine roll.
- PZR level channel (1) NLP-151 failed 4 hours ago. The bistables have been tripped and all actions are complete as per 01-OHP-4022-013-010, Pressurizer Level Instrument Malfunction.
- PZR level is currently 25% on channel (2) NLP-152 and (3) NLP-153.

Which ONE of the following describes the effects on the plant if PZR level channel (3) NLP-153 fails high? Assume NO operator actions.

- a. A Reactor Trip due to high pressurizer level.
- b. A Reactor Trip and Safety injection due to a loss of pressurizer level.
- c. The Reactor will not trip, continue with the plant startup.
- d. The Reactor will not trip, however the plant must be placed in hot shutdown.

*ANSWER

d

*REFERENCE

SOD-00202-003, Pressurizer Level Control

HIGHER

BANK

*QNUM 046
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 000056A137
*QUESTION

Given the following:

- Unit 2 Plant Air Compressor (PAC) is operating with Unit 1 PAC in Standby.
- Both Units are operating at 100% when a tornado causes a Loss of All Offsite Power.
- Both Units EDGs started and are supplying there respective buses.

Which ONE of the following describes the impact to the Unit 1 Plant & Control Air Systems due to the loss of power with NO operator action?

- a. Plant Air Compressor is locked out on load shed signal.
Control Air Compressor is locked out on load shed signal.
- b. Plant Air Compressor is locked out on load shed signal.
Control Air Compressor will auto start if pressure lowers below auto start setpoint.
- c. Plant Air Compressor will start and load.
Control Air Compressor is locked out on load shed signal.
- d. Plant Air Compressor will start but NOT auto load.
Control Air Compressor will auto start if pressure lowers below auto start setpoint.

*ANSWER

b

*REFERENCE

RO-C-06401, Compressed Air System, page 28

HIGHER

NEW

*QNUM 047
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 000056K103
*QUESTION

Given the following:

- A reactor trip occurred 20 minutes ago due to a Loss of Offsite Power.
- RCS Pressure is 1250 psig.

Which ONE of the following sets of indications show that Natural Circulation conditions exist?

	RCS Core Exit Temp	SG Pressure	RCS CL Temp
a.	536°F	665 psig	498°F
b.	549°F	539 psig	462°F
c.	436°F	870 psig	422°F
d.	543°F	280 psig	434°F

*ANSWER

a

*REFERENCE

02-OHP-4023-SUP-011, Natural Circulation Verification

HIGHER

MODIFIED

*QNUM 048
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 00WE15A22

*QUESTION

02-OHP-4023-FR-Z-2, Response to Containment Flooding, addresses flooding in containment as an Orange path. Which ONE of the following describes why this condition is considered a severe challenge to the critical safety function.

- a. Spillover of water to low points away from the recirculation sump may reduce the usable inventory for long term cooling.
- b. An unidentified break in containment may jeopardize systems shared with the other unit.
- c. Cold water surrounding the outside of the reactor vessel may pose integrity concerns.
- d. Critical components necessary for plant recovery may fail if submerged.

*ANSWER

d

*REFERENCE

02-OHP-4023-F-0-5, Containment; 12-OHP-4023-FR-Z-2, Response to Containment Flooding
Background
MEMORY
NEW

*QNUM 049
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 00WE15K22

*QUESTION

02-OHP-4023-FR-Z-2, Response to Containment Flooding, step #1 states: "Try to identify unexpected source of water to containment."

This is based on a water level greater than the design basis flood level as provided by water from the SI Accumulators, RWST, RCS and what other sources?

- a. Ice bed melt and steamline break
- b. Primary Water and Component Cooling Water
- c. Non-Essential Service Water and Fire Protection
- d. Essential Service Water and Ice Condenser Refrigeration Glycol

*ANSWER

a

*REFERENCE

12-OHP-4023-FR-Z-2, Response to Containment Flooding Background; RO-C-EOP13, Containment CSFST, FR-Z Series EOPs and Background Information

MEMORY

MODIFIED

*QNUM 050
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 001000A219
*QUESTION

The following conditions exist on Unit 1:

- Unit 1 is in Mode 1 at 75% power.
- Rod control is in AUTO.
- Control Bank D is at 195 steps.
- Control rods continuously withdraw for NO apparent reason.
- Operators place rod control in MANUAL and rod motion stops.
- Operators determine that Control Bank D rods have withdrawn a total of 10 steps.

Which ONE of the following conditions would exist?

- a. Axial Flux Difference (AFD) would become more positive / less negative.
- b. Overpower Delta Temperature trip (OPDT) setpoint would rise.
- c. Nuclear Enthalpy Rise Hot Channel Factor (HCF) would lower.
- d. Quadrant Power Tilt Ratio (QPTR) would rise.

*ANSWER

a

*REFERENCE

RO-C-GF06, Control Rods

HIGHER

BANK

*QNUM 051
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 001000A405
*QUESTION

The following Unit 1 plant conditions exist:

A feedwater pump trip causes the plant to run back from 80% power equilibrium conditions to 60% power. The crew immediately reduces reactor power another 15% to 45%.

It is desired to maintain Tavg on program and reactor power constant over the next 5 hours. It is also desired to borate in order to withdraw rods to 210 steps by the end of the 5 hours.

Given:

- Current RCS boron is 500 ppm.
- Current Burnup is 12 GWD/MTU.
- Control Rods are currently at 105 steps on Bank D.
- The Reactor Engineer estimates that Xenon will rise to -2988 pcm from the previous equilibrium value of -2638 pcm over the next five hours.
- Boric Acid Storage Tank Concentration = 6700 ppm
- Differential Boron Worth = -9.4 pcm/ppm

Which ONE of the following is the approximate amount of boric acid that will be need to be added over the next 5 hours? (Figures 3.9, 3.10, and 7.5.1 attached.)

- a. 40 gallons
- a. 180 gallons
- a. 260 gallons
- a. 400 gallons

*ANSWER

b

*REFERENCE

Tech Data Book Figures 3.9, 3.10, and 7.5.1

HIGHER

NEW

*QNUM 052
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 003000K202

*QUESTION

Simultaneous faults on BOTH T11A & T11D Buses at 100% Power requires an immediate...

- a. reactor trip because the RCP motors will overheat without Component Cooling flow.
- b. reactor trip because there is NO charging flow to replace letdown.
- c. controlled shutdown because the Charging pump will overheat without Component Cooling flow.
- d. controlled shutdown because the RCP seals will overheat without charging flow.

*ANSWER

a

*REFERENCE

01-OHP-4022-016-004, Loss of Component Cooling Water.

MEMORY

BANK

*QNUM 053
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 003000K304

*QUESTION

With Unit 2 operating at 20% power level, a fault on the Unit Aux Transformer 2CD causes bus 2C and 2D frequency to drop to 57.8 Hz.

Which ONE of the following best describes the expected plant response?

- a. The turbine will run back.
- b. RCPs #22 and #23 will trip while RCPs #21 and #24 remain running. A reactor trip will not occur since power is below P-8.
- c. All RCPs will trip and a reactor trip will occur.
- d. RCPs #22 and #23 will trip while RCPs #21 and #24 remain running. A reactor trip will occur.

*ANSWER

c

*REFERENCE

02-OHP-4024-207, Annunciator #207 Response: Reactor Coolant, Drop 10
HIGHER
MODIFIED

*QNUM 054
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 004000A104
*QUESTION

Given the following plant conditions on Unit 1:

- Reactor power - 50%
- PZR level at program level
- QRV-251 Charging Flow Controller is in MANUAL
- Charging and letdown are balanced

Which ONE of the following describes the effect on the plant if QRV-251 Charging Flow Controller remains in MANUAL and power is increased to 100%?

- a. PZR level will RISE.
- b. Mass of coolant in the RCS will RISE.
- c. Charging flow will LOWER.
- d. VCT level will LOWER.

*ANSWER

a

*REFERENCE

SOD-0202-003, Pressurizer Level Control

MEMORY

BANK

*QNUM 055
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 004000K613
*QUESTION

Given the following:

- A manual makeup to the VCT is being performed.
- The Makeup Mode Selector switch is in MANUAL.
- Primary Water (PW) makeup controller QFC-412 is in auto.
- Boric Acid (BA) controller QFC-411 is set at 10 gpm.
- BA flow totalizer is set to 40.0.
- PW flow totalizer is accidentally set to 2800 instead of 280.

Manual makeup is started but due to an internal failure the BA flow totalizer fails to count.

Which ONE of the following will occur if the Operator fails to notice the failure?

- a. The Boric Acid flow deviation alarm actuates and STOPS all makeup flow after 50 seconds.
- b. Primary Water and Boric Acid flow will both start and then STOP almost immediately since the BA flow totalizer is not counting.
- c. Primary Water flow will continue for 36 minutes after the Boric Acid flow has stopped leading to a dilution of the RCS.
- d. Primary Water and Boric Acid flow will both continue for 36 minutes after they should have stopped, adding more makeup than planned.

*ANSWER

d

*REFERENCE

02-OHP-4021-005-001, Boron Makeup System Operation and Attachment 7

SOD-00300-002, VCT and CVCS Makeup Systems

HIGHER

NEW

*QNUM 056
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 013000A204
*QUESTION

Given the following conditions:

- A small break LOCA has occurred.
- CRID 1 Instrument Bus tripped off just before the reactor trip.
- The RO turned both SI Actuation switches to actuate on the Pressurizer Panel.

Concerning the CCP Leak-off valves, which ONE of the following is correct for this situation?

QMO-225 Safety Injection Signal light will ...

- a. be lit since a manual SI has been performed.
- b. NOT be lit. The RO must manually actuate SI from the Safety Injection Panel switches to cause the light to illuminate and the valve to cycle with pressure.
- c. NOT be lit. The RO must manually close QMO-225 if RCS pressure lowers below 1825 psig.
- d. NOT be lit. QMO-225 will cycle with pressure since QMO-226 has the Safety Injection Signal light lit.

*ANSWER

c

*REFERENCE

02-OHP-4023-E-0, Reactor Trip Or Safety Injection
SOD-0300-001, Charging and Letdown System
SOD-1100-002, RPS/ESFAS Signals
SOD-1101-002, SSPS Hardware
HIGHER
NEW

*QNUM 057
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 013000K201
*QUESTION

Given the following:

- Offsite power is lost during preparations to establish charging flow per Step 5 of OHP-4023-ES-1-1, SI Termination.
- The DGs start and supply the T-bus loads.
- Thirty seconds later, the STA observes that the SI pumps are no longer running. They were running before the loss of offsite power.

Should the SI pumps have restarted automatically by this point in time and why?

- a. Yes. The DG Safety Injection timers should have started the SI pumps.
- b. Yes. The DG Blackout timers should have started the SI pumps.
- c. No. The DG Safety Injection timers did not actuate because the SI signal has been reset.
- d. No. The DG Safety Injection timers will not start the pumps for another 7 seconds.

*ANSWER

c

*REFERENCE

ERG-HP/LP Background

12-OHP-4023-ES-1-1, SI Termination Background

1-OHP-4023-ES-1-1, SI Termination

HIGHER

BANK

*QNUM 058
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 014000A401

*QUESTION

After receipt of an urgent failure on a power cabinet, rod motion can occur for rods on unaffected power cabinets with the bank selector switch in:

- a. the automatic position.
- b. the manual position.
- c. individual bank positions for rods in unaffected power cabinets.
- d. either manual position or the individual bank positions for rods in unaffected power cabinets.

*ANSWER

C

*REFERENCE

02-OHP-4024-210, Annunciator #210 Response
Flux Rod, Drop 26 Rod Control Urgent Failure
MEMORY
BANK

*QNUM 059
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 015000 2.1.18

*QUESTION

During the performance of an NIS power range heat balance at 100% power, an operator uses a feedwater temperature 30°F lower than actual.

Would the calculated value of power be HIGHER or LOWER than actual power, and would an adjustment of the NIS power range channels, based on this value, be CONSERVATIVE or NON-CONSERVATIVE with respect to protection setpoints?

- a. HIGHER / conservative
- a. HIGHER / non-conservative
- a. Lower / conservative
- a. Lower / non-conservative

*ANSWER

a

*REFERENCE

RO-C-GF19, Heat Transfer

HIGHER

BANK

*QNUM 060
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 015000A403
*QUESTION

Given the following:

- Turbine is being prepared for loading.
- Reactor is critical at 8% power.
- The following annunciators alarm:
 - INTMED RANGE DETECTORS VOLT FAILURE (Annun. 110, drop 7)
 - INTMED RANGE COMPENSATE VOLT FAILURE (Annun. 110, drop 8)
- All lights and indicators on the N36 drawer are dark or pegged low.

Which ONE of the following actions are required?

- a. Place the N36 LEVEL TRIP switch in the BYPASS position, and continue power operation.
- b. Place the N36 LEVEL TRIP switch in the BYPASS position, and reduce power to less than 5%.
- c. Perform immediate actions required by 02-OHP-4023-E-0 Reactor Trip Or Safety Injection.
- d. Remove Instrument Power fuses from Source Range Channel N32 to de-energize it's detector.

*ANSWER

c

*REFERENCE

Technical Specification 3.3.1, Table 3.3-1, Item 5 and Action 3.c
1-OHP-4022-013-003 Intermediate Range Malfunction

HIGHER

BANK

*QNUM 061
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 017000A401

*QUESTION

Which ONE of the following sets of RCS temperature indications are available on the Mid Loop Monitoring Carts A and B?

- a. Hot Leg Wide Range RTDs (NTR-110 and NTR-130)
- b. Cold Leg Wide Range RTDs (NTR-210 and NTR-230)
- c. RVLIS Strap-on RTDs (NTQ-110A and NTQ-110B)
- d. Core Exit Thermocouples (NTI-100 and NTI-101)

*ANSWER

d

*REFERENCE

SOD-01301-002, Incore Detectors; 12-OHP-4024-142, Annunciator #142

Response: Mid Loop Monitoring System Cart A; 12-OHP-4024-143, Annunciator #143

Response: Mid Loop Monitoring System Cart B

MEMORY

NEW

*QNUM 062
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 017000K402

*QUESTION

Which ONE of the following describes the design arrangement of the Core Exit Thermocouples (TCs)?

The Core Exit Thermocouples are ...

- a. divided into Trains "A" , "B", "C", and "D" with each train having TCs in only one of the core quadrants. (For example: Quadrant 1, Detector 1 feeds Train A; Quadrant 2, Detector 2 feeds Train B; Quadrant 3, Detector 3 feeds Train C; Quadrant 4, Detector 4 feeds Train D; etc.)
- b. divided into Trains "A" and "B" with each train sharing TCs in each one of the core quadrants. (For example: Quadrant 1, Detector 1 feeds Train A and B; Quadrant 2, Detector 2 feeds Trains A and B; etc.)
- c. divided into Trains "A" and "B". Train "A" has TCs in quadrants 1 and 3 only and Train "B" has TC's in quadrants 2 and 4 only. (For example: Quadrant 1, Detector 1 feeds Train A; Quadrant 2, Detector 2 feeds Train B; Quadrant 3, Detector 3 feeds Train A; Quadrant 4, Detector 4 feeds Train B; etc.)
- d. divided into Trains "A" and "B" with each train having separate TCs in each one of the core quadrants. (For example: Quadrant 1, Detector 1 feeds Train A; Quadrant 1, Detector 31 feeds Train B; Quad 2, Det. 2 feeds Train A; Quadrant 2, Detector 32 feeds Train B; etc.)

*ANSWER

d

*REFERENCE

02-OHP-4030-214-031, Operations Weekly Surveillance Checks

MEMORY

NEW

*QNUM 063
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 022000 2.1.31
*QUESTION

The operator notes a white lamp indication above the fan control switches for the following fans:

- Pressure Relief Exhaust Fan
- Instrument Room Ventilation Fans
- Hot Sleeve Ventilation Fans
- Upper Containment Ventilation
- Lower Containment Pressurizer Enclosure Fans
- Lower Containment Reactor Cavity Supply Fans

Which ONE of the following describes what this indication represents and what impact it will have on operation of the fans?

- a. Load Conservation signal has been actuated, none of the fans can be started until offsite power is restored for at least 75 seconds.
- b. Load Conservation signal has been actuated, some of the fans can be started after 75 seconds.
- c. Containment Isolation Phase A signal has been actuated, all of the fans have received an Auto Start signal.
- d. Containment Isolation Phase A signal has been actuated, none of the fans can be started until Phase A is reset.

*ANSWER

b

*REFERENCE

SOD-02800-001 and 002, Containment Ventilation
SOD-08201-001, Emergency Electrical Distribution

MEMORY

BANK

*QNUM 064
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 025000A301
*QUESTION

Given the following conditions concerning the Ice Condenser Cooling System:

Aligned to Unit 1 - Glycol Pumps 1 and 2 running with #3 in Auto.
Refrigeration Chiller Units 1 in SEQUENCE MODE
Refrigeration Chiller Units 7 and 8 in BASE LOAD

Aligned to Unit 2 - Glycol Pumps 5 and 6 running with #4 in Auto.
Refrigeration Chiller Units 3 in SEQUENCE MODE
Refrigeration Chiller Units 4, 5, and 6 in BASE LOAD

The NESW piping to the #5 and #6 Chillers starts leaking which causes a loss of NESW flow to both chillers.(NESW flow to the all other chillers is not significantly impacted) This also causes a trip of Glycol Pump #2 due to water spraying on the motor.

Which ONE of the following describes the resulting status of the Ice Condenser Cooling System? Assume NO operator action.

- a. U1 - Chiller Units 7 and 8 tripped, Chiller Unit 1 picks up cooling load for U1, Glycol pump #1 alone supplies required flow. U2 - Chiller Units 5 and 6 tripped, Chiller Unit 3 picks up cooling load for U2.
- b. U1 - Chiller Units 7 and 8 operating, Glycol pump #3 starts. U2 - Chiller Units 3, 4, 5, and 6 tripped, U2 Containment Isolation Glycol valves closed.
- c. U1 - Chiller Units 7 and 8 operating, U2 Crossties open, Glycol pump #3 starts. U2 - Chiller Units 5 and 6 tripped, Chiller Units 1 and 3 pick up cooling load for U2, Glycol pump #4 starts.
- d. U1 - Chiller Units 7 and 8 operating, Glycol pump #3 starts. U2 - Chiller Units 5 and 6 tripped, Chiller Unit 3 picks up cooling load for U2.

*ANSWER

d

*REFERENCE

SD-01000, Ice Condenser System

HIGHER

NEW

*QNUM 065
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 025000K402

*QUESTION

Which ONE of the following correctly describes operation of the Ice Condenser Air Handling Unit Fans?

The Air Handling Unit fans are ...

- a. manually stopped before a defrost cycle but will automatically trip when DIS is placed in service.
- b. automatically stopped by a defrost cycle and when DIS is placed in service.
- c. manually stopped before a defrost cycle and when DIS is placed in service.
- d. automatically stopped by a defrost cycle but must be manually stopped when DIS is placed in service.

*ANSWER

d

*REFERENCE

RO-C-01000, Ice Condenser System

MEMORY

NEW

*QNUM 066
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 026000A105

*QUESTION

Which ONE of the following describes how nitrogen induction into the suction headers of the Containment Spray pumps is prevented?

- a. IMO-202 and IMO-204, Spray Additive Tank isolation valves, are automatically closed on a Spray Additive Tank Low-Low level.
- b. A close permissive on a Low-Low Spray Additive Tank level allows the operator to shut IMO-212 and IMO-222, Eductor supply valves.
- c. IMO-212 and IMO-222, Eductor supply valves, are automatically closed on a Spray Additive Tank outlet Low-Low flow.
- d. A close permissive on a Low-Low Spray Additive Tank flow allows the operator to shut IMO-202 and IMO-204, Spray Additive Tank isolation valves.

*ANSWER

a

*REFERENCE

OHP-4024-105, Annunciator #105 Response: Containment Spray, Drop 3

T.S 3.6.2.2

MEMORY

BANK

*QNUM 067
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 026000A301
*QUESTION

The following plant conditions exist:

- A U-2 LOCA is in progress.
- Containment Pressure is 8.5 psig.
- IMO-210/211/220/221 (CTS Pump Discharge Valves) are Open.
- IMO-202/204 (SAT Outlet Valves) are Open.
- IMO-212/222 (SAT Eductor Valves) are Open.
- East CTS Pump is Running.
- West CTS Pump is NOT Running.
- Both RHR Pumps are Running.
- All MSIVs are Closed.
- Panel 205 Drop 5, "CONTAINMENT SPRAY ACTUATED" alarm actuated.
- Panel 205 Drop 10 "CONTAINMENT ISOLATION PHASE B" alarm actuated.

Which ONE of the following failures would result in the above listed conditions?

- a. Failure of Train A, Containment Isolation Phase B relay to actuate.
- b. Failure of Train B, Containment Isolation Phase B relay to actuate.
- c. Failure of Train A, Containment Spray (CTS) relay to actuate.
- d. Failure of Train B, Containment Spray (CTS) relay to actuate.

*ANSWER

b

*REFERENCE

RO-C-00900, Containment Spray and Hydrogen Recombiner

HIGHER

BANK

*QNUM 068
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 056000K103
*QUESTION

Given the following conditions:

- North & South Hotwell Pumps running.
- North & Middle Condensate Booster Pumps running.
- Unit 2 Reactor Power is 75%.
- Low Pressure Heater String "A" (HTRs 2A, 3A, & 4A) is isolated for a tube leak repair on the 2A HTR.
- The Low Pressure Heater Bypass valve, CRV-224 is open.

An electrical fault causes CMO-220 "B" Low Pressure Heater String (HTRs 2B, 3B, & 4B) Inlet Isolation to CLOSE.

Which ONE of the following describes the plant impact of this failure?

- a. Feedwater Pumps Trip on Low Suction Pressure.
- b. Middle Hotwell pump starts to restore FW Pump Suction Pressure.
- c. South Condensate Booster starts to restore FW Pump Suction Pressure.
- d. Reactor Power will increase due to the lack of FW preheating.

*ANSWER

a

*REFERENCE

SOD-05400-001 and 002, Condensate System

SOD-05500-001, Feedwater System Overview

HIGHER

NEW

*QNUM 069
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 059000A103
*QUESTION

Given the following plant conditions:

- Unit 1 is at 58% power.
- All control systems are in AUTOMATIC.

Which ONE of the following describes the plant response to a trip of the East Main Feed Pump? Assume NO operator action and NO plant trip occurs.

- a. As SG water levels start lowering, the Feedwater Regulating Valves open further, the West MFP speed rises, and the Standby Hotwell Pump and Condensate Booster Pump start due to low Condensate System pressure.
- b. the West MFP speed rises but will not maintain SG level. Both the Steam-driven and Motor-driven Auxiliary Feedwater Pumps start when SG levels reach the Low-Low level setpoint.
- c. the feedwater header pressure lowers, causing the West MFP speed to rise until it trips on overspeed. Both the Steam-driven and Motor-driven Auxiliary Feedwater Pumps start when SG levels reach the Low-Low level setpoint.
- d. the feedwater header pressure lowers, causing the West MFP speed to rise. NO automatic pump starts occur.

*ANSWER

d

*REFERENCE

01-OHP-4022-055-001, Loss Of One Main Feed Pump

MEMORY

BANK

*QNUM 070
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 059000A303
*QUESTION

Unit 1 is operating at 75% power with the following Secondary System Pumps running:

- East and West Main FW Pumps
- North and South HD Pumps
- North and Middle Condensate Booster Pumps
- North and South Hotwell Pumps

A level transmitter fails on Heater 5B resulting in an invalid high-high level signal causing the Bleed Steam & Heater Drain Inputs to isolate and Condenser Alternate Drains to open.

Which ONE of the following would be an expected response to this failure?

- a. North and South Heater Drain Pumps trip.
- b. Low Pressure Heater String Bypass CRV-224 opens.
- c. High Pressure Heater String "B" (5B and 6B) Feedwater Inlet isolates and Bypass FMO-260 opens.
- d. North Heater Drain Pump trips and Middle Heater Drain Pump auto starts.

*ANSWER

b

*REFERENCE

SOD-05400-001, Condensate System

SOD-05500-001, Feedwater System Overview

SOD-06000-001, Bleed Steam & Feedwater Heater Drains

HIGHER

NEW

*QNUM 071
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 061000 2.2.22

3F

MASTER - MODIFIED

In accordance with Technical Specifications, which ONE of the following is the highest power during a plant shutdown at which the Auxiliary Feedwater System is allowed to be placed in continuous service? Assume a 2 MW/Min ramp down.

- a. Once power is below 40% and the AMSAC timers have counted out.
- b. Once power is below 50% and one Main Feedwater Pump has been shut down.
- c. Once power has been reduced to less than or equal to 10%.
- d. Once the unit is in Mode 2.

*ANSWER

c

*REFERENCE

Technical Specification 3.7.1.2 surveillance requirement 4.7.1.2.d

MEMORY

MODIFIED

*QNUM 072
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 061000K101
*QUESTION

Given the following conditions:

- Steam Generator (S/G) #1 on Unit 1 is faulted and completely depressurized.
- Unit 1 East Motor Driven AFW pump failed to start on the resultant SI.
- No operator action has been taken.

Based on current plant conditions, AFW flow to #4 S/G...

- a. would be reduced to 0 PPH because SG #1 is completely depressurized.
- b. will be higher than SG #1 flow because flow retention will isolate AFW flow to SG #1.
- c. will be higher than SG #1 flow because SG #4 is being fed by the West MDAFW & TDAFW pumps.
- d. will be less than SG #1 but will be maintained due to flow retention.

*ANSWER

d

*REFERENCE

SOD-05600-001, Auxiliary Feedwater System

HIGHER

NEW

*QNUM 073
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 016000K501

*QUESTION

An uncontrolled depressurization of all steam generators is in progress. The Unit Supervisor has implemented OHP-4023-ECA-2-1, Uncontrolled Depressurization Of All Steam Generators.

The following plant conditions exist:

- As procedurally directed, the BOP has reduced AFW flow to minimize a cooldown which exceeded 100°F in an hour.
- The TDAFP has been stopped.
- Both MDAFPs are running.
- All Steam generator wide range levels have lowered to 20%.
- Containment pressure is 3.5 psig.
- The steam generators have now essentially depressurized and hot leg temperatures have begun to rise.

Based on the above conditions, which ONE of the following is the required action regarding AFW flow?

- a. Continue at the same flow rate of 25,000 PPH per steam generator.
- b. Raise flow rate to a minimum of 60,000 PPH to each steam generator to satisfy heat sink requirements.
- c. Raise flow rate to each steam generator until hot leg temperatures are stable or lowering.
- d. Raise flow rate to a maximum of 50,000 PPH per steam generator to satisfy dry steam generator requirements .

*ANSWER

c

*REFERENCE

12-OHP-4023-ECA-2-1, Uncontrolled Depressurization of All Steam Generators Background
HIGHER
BANK

*QNUM 074
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 063000K102
*QUESTION

The following plant conditions exist:

- Unit 2 was operating at about 100% power when a Complete Loss of Onsite and Offsite AC power occurred 2 hours and 55 minutes ago.
- Unit 2 dispatched operators after 30 minutes to shed the large Non-Essential DC loads.
- Power has just been restored from Emergency Power.
- The crew transitioned to OHP-4023-ECA-0-0, Loss Of All AC Power, Step 28 and stabilized SG pressures.
- While performing Step 29, the SRO missed the page that restored the battery chargers to the N train, 2AB and 2CD 250VDC buses. (The actions of step 29 to restore 600V AC Busses, Control Room Cooling, and CRID inverters were successfully performed.)

Which ONE of the following describes the Impact of failing to restore the battery chargers?

When the Batteries completely discharge...

- a. all AFW flow will be lost when the AFW pump discharge valves fail closed
- b. the ability to start and stop ECCS pumps from the control room will be lost.
- C. the Emergency Power feed breaker will trip open resulting in another Loss of AC.
- d. all vital instrumentation will be lost.

*ANSWER

b

*REFERENCE

RO-C-8200, Balance Of Plant Electrical System

RO-C-08201, Engineered Safety System Electrical Distribution System

RO-C-08204, 250VDC Distribution System

MEMORY

BANK

*QNUM 075
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 068000K610

*QUESTION

Which ONE of the following will AUTOMATICALLY stop the selected Monitor Tank pump during a liquid release to the U-2 Circulating Water System?

- a. HIGH flow alarm on Liquid Waste Sample Flow channel RFS-1010.
- b. ALERT alarm on Liquid Waste Effluent channel RRS-1001.
- c. Loss of all Unit 2 Circulating Water pumps.
- d. HIGH alarm on Liquid Waste Local Area channel RRA-1003.

*ANSWER

a

*REFERENCE

12-OHP-4024-139, Annunciator #139 Response: Eberline Radiation, # 16 Radioactive Liquid Effluent Monitor RRS-1000

MEMORY

MODIFIED

*QNUM 076
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 071000 2.4.46
*QUESTION

The in-service gas decay tank is being switched to another tank.

At the Waste Disposal System (WDS) panel you receive the Panel 128 Drop 28 'AUTO GAS ANALYZER ALARM.'

A few minutes later you receive the following two alarms:

- Panel 128 Drop 10 'WASTE GAS ANALYZER OXYGEN HIGH'
- Panel 128 Drop 15 'WASTE GAS ANALYZER O2 EXT HIGH'

Why have these alarms occurred in this sequence?

- a. Drop 28 occurred during the GDT tank transfer and Drop 15 and Drop 10, the O2 alarms, occurred because there is high O2 in the in-service tank.
- b. Drop 28 occurred because the analyzer is removed from service before the tanks are switched and Drop 15 and Drop 10, the O2 alarms, occurred when the analyzer was placed back in service.
- c. Drop 28 occurred during the GDT tank transfer and Drop 15 and Drop 10, the O2 alarms, occurred when the analyzer was placed back in service.
- d. Drop 28 occurred because the analyzer is removed from service before the tanks are switched Drop 15 and Drop 10, the O2 alarms, occurred because there is high O2 in the in-service tank.

*ANSWER

a

*REFERENCE

12-OHP-4021-023-001, Operation of the Waste Gas System

12-OHP-4024-128, Annunciator #128 Response: Boron Recycle and Gas Waste, Drops 10, 15, and 28

HIGHER

BANK

*QNUM 077
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 072000K302

*QUESTION

As a fuel assembly is being lifted with the Spent Fuel Handling Crane, R5, Spent Fuel Pool Fuel Handling Building area radiation monitor goes into HIGH alarm.

Which ONE of the following describes the automatic actions associated with this alarm?

- a. Fuel Handling Area Supply Fans 12-HV-AFS-1, 2, 3, 4 - TRIP
AFX Filter Bypass Dampers - CLOSE
AFX Filter Outlet Damper s - OPEN
- b. Fuel Handling Area Supply Fans 12-HV-AFS-1, 2, 3, 4 - START
AFX Filter Bypass Dampers - OPEN
AFX Filter Outlet Damper s - OPEN
- c. Spent Fuel Handling Crane upward motion is BLOCKED.
- d. Control Room A/C Intake Dampers HV-ACRDA-1, 1A - CLOSE
Control Room Pressurization Outside Air Intake Dampers HV-ACRDA-2, 2A - OPEN
Control Room Pressurization Recirc Damper HV-ACRDA-3 - OPEN

*ANSWER

a

*REFERENCE

12-OHP-4021-013-006, Operation Of The Eberline Radiation Monitoring System Terminal, Attachment 8

01-OHP-4024-138, Annunciator #138 Response: Electro-Larm, Drop #5

MEMORY

MODIFIED

*QNUM 078
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 006000K301
*QUESTION

Given the following:

- Both Units were at 100% rated power.
- A Loss of All AC Power occurred.
- Operators on both units have implemented OHP-4023-ECA-0-0, Loss Of All AC Power.
- The Shift Manager appoints an extra SRO to work with engineering and Saint Joseph Line division to restore power in 4 hours.

Which ONE of the following is the primary concern with restoring power within 4 hours?

- a. E-Plan classification upgrade to Site Area Emergency will be required since DC Cook is a 4 hour coping plant.
- b. Loss of Heat Sink may result as the TDAFP discharge valves close when the N-Train Battery becomes depleted.
- c. Loss of Heat Sink may result due to limited CST supply.
- d. Loss of ECCS makeup capability may result in core uncover.

*ANSWER

d

*REFERENCE

RO-C-EOP14, Loss Of All AC Power Series Procedures

MEMORY

NEW

*QNUM 079
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 006000K505
*QUESTION

During a normal Unit 1 plant heatup and pressurization from Mode 5, the following conditions exists:

- RCS Tcold is 150°F.
- RCS pressure is 350 psig.
- RCS heatup rate is 40°F per hour.
- All reactor coolant loops are operable, but only one RCP is running.
- The RHR system is aligned for core cooling with both RHR pumps running.
- One SI pump and one CCP are OPERABLE.

The operable CCP is running to provide normal charging flow.

The conditions described are IMPROPER because:

- a. If the SI pump were to start, it might overpressurize the RCS.
- b. Running one RCP and two RHR pumps produces non-uniform core cooling.
- c. The number of ECCS pumps available to provide injection is inadequate.
- d. The heatup rate is too high for the RCS temperature and pressure.

*ANSWER

a

*REFERENCE

Unit 1 Technical Specifications, Bases for LCO's 3.5.2 and 3.5.3

PMP-4100-SDR-001, Plant Shutdown Safety and Risk Management, Attachment 2, Step 1.6

RCS Injection Capability

HIGHER

BANK

*QNUM 080
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 010000A202
*QUESTION

Given the following:

- Unit 2 reactor power is 12%.
- RCS pressure is 2075 psig and slowly lowering.
- All Pressurizer heaters are energized.
- You notice that NRV-163 (PZR spray) is failed OPEN.
- When placed in manual NRV-163 will NOT close.

Which ONE of the following is the proper sequence of actions to stop the pressure reduction?

- a. Trip RCP #23.
The RCP trip will NOT cause a reactor trip at this power.
Dispatch an AEO to locally isolate Spray Valve NRV-163.
- b. Reduce Power to 8% so a RCP trip will NOT cause a reactor trip.
Trip RCP #23.
Dispatch an AEO to locally isolate Spray Valve NRV-163.
- c. Trip RCP #23.
The reactor will trip when the RCP is tripped.
Go to 02-OHP-4023-E-0, Reactor Trip Or Safety Injection.
- d. Manually trip the reactor.
Go to 02-OHP-4023-E-0, Reactor Trip Or Safety Injection.
Trip RCP #23.

*ANSWER

d

*REFERENCE

02-OHP-4024-207, Annunciator #207 Response: Reactor Coolant, Drop 61

02-OHP-4021-002-003, Reactor Coolant Pump Operation

02-OHP-4023-ES-0-1, Reactor Trip Response

HIGHER

MODIFIED

*QNUM 081
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 011000K202

*QUESTION

During a loss of off-site power condition, design features are installed to provide power to the pressurizer heaters.

Which ONE of the following correctly describes this design arrangement?

- a. Group A1, A2, and A3 from the 2AB Emergency DG via bus T21B.
- b. Group C1, C2, and C3 from the 2CD Emergency DG via bus T21D.
- c. Group A1, A2, and A3 from the 21BD bus crosstie.
- d. Group C1, C2, and C3 from the 21AC bus crosstie.

*ANSWER

b

*REFERENCE

SOD-08201-001, Emergency Electrical Distribution
MEMORY
MODIFIED

*QNUM 082
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 011000K605
*QUESTION

Given the following plant conditions:

- The RCS is being cooled and depressurized following a SG Tube Rupture in accordance with 02-OHP-4023-ES-3-1, Post SGTR Cooldown Using Backfill, and 02-OHP-4021-001-004, Plant Cooldown From Hot Standby To Cold Shutdown.
- RCS Temperature is currently 250 F.
- RHR is in service providing RCS cooling and letdown.
- A steam bubble is being maintained in the pressurizer to equalize RCS and SG pressure.

Will the Pressurizer heater cutoff interlock (17%) protect the heaters from damage under the present plant conditions and why?

- a. Yes, indicated 17% on the hot calibrated level detector is >17% actual level in the Pressurizer, and the interlock is able to protect the heaters before they are uncovered.
- b. Yes, indicated 17% on the cold calibrated level detector is approximately 17% actual level in the Pressurizer, and the interlock is swapped to the cold calibrated channel during the cooldown making it available to protect the heaters.
- c. No, indicated 17% on the hot calibrated level detector is <17% actual level in the Pressurizer, and the interlock is unable to protect the heaters before they are uncovered.
- d. No, indicated 17% on the cold calibrated level detector is inaccurate at the present plant conditions and the heaters may become uncovered even though the interlock has been swapped to the cold calibrated channel.

*ANSWER

c

*REFERENCE

02-OHP-4021-001-004, Plant Cooldown From Hot Standby To Cold Shutdown
HIGHER
MODIFIED

*QNUM 083
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 016000A201

*QUESTION

3H

MASTER - DIRECT

Unit 2 is at 100% power when Loop 3 NR That fails HIGH. Prior to any operator action, a reactor trip occurs.

Which ONE of the following describes steam dump system response to this event?

- a. Steam dump valves in Group I (3 valves) will throttle open to reduce Tavg to 547°F.
- b. Steam dumps will not sense a Tavg error, and will therefore not respond to the trip.
- c. Steam dump valves in Groups I and II (6 valves) will actuate to reduce Tavg to 547°F, and then will modulate closed as Tavg is reduced.
- d. Steam dump valves in Groups I and II (6 valves) will actuate to reduce Tavg to 547°F, and will then be closed at 541 F by the P-12 interlock.

*ANSWER

d

*REFERENCE

SD-05200-001, Steam Dump System

HIGHER

BANK

*QNUM 084
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 016000K501

*QUESTION

Which ONE of the following explains the purpose of the Isolation Amplifier associated with the Pressurizer Pressure Transmitter?

- a. Amplifies the pressure output signal between containment and the instrument racks.
- b. Isolates the pressure transmitter from the impacts of changing containment pressures.
- c. Protects the control signal from perturbation due to backfeed from a disturbance in the Reactor Protection System.
- d. Protects the Reactor Protection signal from a perturbation due to backfeed from a disturbance in the control circuit.

*ANSWER

d

*REFERENCE

UFSAR, Chapter 7, Page 2 and 3, Electrical Isolation

MEMORY

NEW

*QNUM 085
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC4
*EXLEVEL B
*KA 028000A203

*QUESTION

A reactor trip and safety injection occurred due to a LOCA. There are several ECCS system failures. The following plant conditions exist:

- Containment pressure is 7.2 psig and rising.
- Containment (PACHMS) hydrogen concentration is 5.8% and rising.

Which ONE of the following describes the correct mitigating strategy for hydrogen control?

- a. A hydrogen recombiner should be placed in service if 6 hours have elapsed since the start of the LOCA.
- b. Both hydrogen recombiners should be started immediately.
- c. Contact the Plant Evaluation Team to evaluate PACHMS for failed analyzers because containment hydrogen is never expected to exceed 5% during any accident.
- d. Contact the Plant Evaluation Team to evaluate the condition because operation of the hydrogen recombiners may cause an explosion.

*ANSWER

d

*REFERENCE

12-OHP-4023-E-1, Loss Of Reactor Or Secondary Coolant Background, Step 17

MEMORY

MODIFIED

*QNUM 086
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 029000 2.1.33
*QUESTION

Given the following:

- Unit 1 is in Mode 4.
- The Containment Purge System was aligned for full flow purge operation with the following lineup:

Purge Supply Fan HV-CPS-1 - RUNNING
Purge Exhaust Fan HV-CPX-2 - RUNNING
Purge Supply to Upper Containment VCR-105 and VCR-205 OPEN
Purge Exhaust from Upper Containment VCR-106 and VCR-206 OPEN

- Following a HIGH alarm on ERS-1305, Lower Containment Radiation Monitor, the Containment Purge System is aligned as follows:

Purge Supply Fan HV-CPS-1 - RUNNING
Purge Exhaust Fan HV-CPX-2 - RUNNING
Purge Supply to Upper Containment VCR-105 and VCR-205 OPEN
Purge Exhaust from Upper Containment VCR-206 OPEN
Purge Exhaust from Upper Containment VCR-106 CLOSED

Which ONE of the following describes the required operator actions?

- a. Stop HV-CPS-1 and HV-CPX-2, Close VCR-105, 205, and 206 and ...
- b. declare VCR-105 inoperable.
- c. declare VCR - 206 and HV-CPX-2 inoperable.
- d. log completion of the purge. Containment Ventilation Isolation is NOT required to be operable in this mode. Initiate an eSAT to investigate why VCR-106 incorrectly closed from Lower Containment Radiation.

*ANSWER

a

*REFERENCE

SOD-1350-001, Radiation Monitoring System

Tech Spec 3.6.1.7 and 3.6.3

HIGHER

NEW

*QNUM 087
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 029000 2.2.29

*QUESTION

During refueling operations, the divider barrier and missile blocks between the reactor well and refueling canal are removed. As a result of this removal, higher flow rates in the containment purge exhaust system will . . .

- a. prevent the formation of vapor clouds on the water.
- b. allow shutdown of the containment pressure relief system
- c. clear the interlock for containment purge supply fan operation.
- d. minimize the formation of stagnant air pockets that may contain hydrogen.

*ANSWER

a

*REFERENCE

SOD-02800-002, Containment Ventilation
MEMORY
BANK

*QNUM 088
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 033000A301
*QUESTION

Given the following conditions:

- South Spent Fuel Pit pump and heat exchanger in service.
- Unit 1 and Unit 2 Operating at 100% Power following back-to-back refuelings.
- Unit 1 experiences a loss of offsite AC Power.
- Unit 2 experiences an Inadvertent Phase A Containment Isolation.
- The diesel generators have reenergized the Unit 1 - 4KV and 600volt busses.

Which ONE of the following correctly describes the impact of this accident on the Spent Fuel Pit (SFP) conditions?

SFP temperature would be:

- a. lowering due to the North Spent Fuel Pit pump starting on Blackout sequence.
- b. lowering due to the Unit 1 standby CCW pump starting on Blackout sequence.
- c. rising due to isolation of Spent Fuel Heat Exchanger CCW flow.
- d. rising due to Load Shed of the South Spent Fuel Pit pump.

*ANSWER

c

*REFERENCE

02-OHP-4023-SUP-003, Phase A Isolation Checklist (page 5 of 6)

HIGHER

MODIFIED

*QNUM 089
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 035000A406
*QUESTION

Given the following:

- A tube rupture has occurred in the #23 Steam Generator (SG).
- A Manual Reactor Trip and Safety Injection were performed.
- On the reactor trip, the #21 and #22 SG Pressure channels failed low resulting in an automatic Steam Line Isolation.
- RCS Pressure is currently 2035 psig.
- RCS Tave is 549°F.
- The #23 SG is being isolated in accordance with procedure 2-OHP-4023-E-3, Steam Generator Tube Rupture.
- You notice that both MSIV dump valves for the #23 SG are open allowing an unmonitored radioactive release to the atmosphere.

Which ONE of the following is the action that should be taken to close the MSIV dump valves?

- a. Select BLOCK on both Steamline Isolation Block/Reset Switches.
- b. Select RESET on both Steamline Isolation Block/Reset Switches.
- c. Place both MSIV dump valve control switches to LOCKOUT.
- d. Place both MSIV dump valve control switches to TRIP/RESET.

*ANSWER

c

*REFERENCE

SD-05103 Main Steam System Page 20 & 21
OP-1/2-98538, SGSV Dump Valves MRV-231 and 232
HIGHER
NEW

*QNUM 090
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 035000K401
*QUESTION

Given the following plant conditions:

- Unit 1 is at 100% power and stable.
- Steam Generator Level Controls are in AUTOMATIC.
- Steam Generator #12 Steam Flow Channel 1, 1-MFC-121, is selected to the Steam Generator Level Control System.

An unidentified calibration error results in Steam Generator #12 Steam Flow Channel 2, 1-MFC-120, indicating 10% low (indicates 90% vs 100% Steam Flow). When requested by MTI, operators switch the controlling Steam Flow channel to 1-MFC-120.

Which ONE of the following conditions will occur when the operator switches the controlling channel?

The Steam Generator Level Control system will:

- a. initially lower feed flow, then control #12 SG level approximately 10% below program level.
- b. not change feed flow to the #12 SG, but Feedwater delta-P program will be lowered to the 90% power value.
- c. initially raise feed flow to #12 SG, then return level to program. The Feedwater delta-P program will be lowered to the 90% power value.
- d. initially lower feed flow, then control #12 SG level at approximately program level.

*ANSWER

d

*REFERENCE

SOD-05100-003, Steam Generator Water Level Control
HIGHER
BANK

*QNUM 091
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 039000A103

*QUESTION

During the final stages of an RCS heatup, the Steam Dump System is set to automatically control RCS temperature at No-Load conditions.

Which ONE of the following is the correct Steam Dump Pressure Controller setpoint required to maintain RCS temperature at approximately No-Load Tavg?

- a. 955 psig
- b. 985 psig
- c. 1005 psig
- d. 1025 psig

*ANSWER

c

*REFERENCE

Steam Tables; 02-OHP-4021-001-001, Plant Heatup From Cold Shutdown To Hot Standby

02-OHP-4021-052-001, Steam Dump Control System Operation

SOD-05200-001, Steam Dump System

HIGHER

NEW

*QNUM 092
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 039000K304
*QUESTION

The following conditions exist:

- Unit 2 is at 100% power after recently completing a startup.
- Both Main Feed Pumps are running on Reheat Steam.
- The setpoint for ARV-11 and ARV-12, Main Steam to FPT, have been left at 45 psig.

Which ONE of the following can occur from this error during a sudden loss of turbine load to 80% power?

- a. Reactor trip on Low SG Level.
- b. Feed pump trip on overspeed.
- c. Overfeeding the steam generators.
- d. Low suction pressure feed pump trip.

*ANSWER

a

*REFERENCE

SD-05500 Main FW System Description

HIGHER

BANK

*QNUM 093
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 062000K201
*QUESTION

Unit 2 was operating with a normal 100% power lineup when a reactor trip occurred.

The following conditions currently exist:

- 2CD Emergency Diesel Generator running
- #23 RCP, #21 CW, North Hotwell, North Condensate, and North Heater Drain Pumps all tripped
- West CCP, CCW, ESW, NESW and MDAFW Pumps are all running
- East CCW, ESW, NESW and MDAFW Pumps are all running

Which ONE of the following failures is the cause?

- a. RCP Bus 2D tripped
- b. RCP Bus 2C tripped
- c. Loss of ALL power to 250V DC Bus 2CD
- d. RCP Bus 2C and 2D Under frequency

*ANSWER

a

*REFERENCE

02-OHP-2110-BKM-001, Control Of Operations Department Unit 2 Breaker Cleaning Maps, Figure 12 page 22

SOD-08201-001, Emergency Electrical Distribution

HIGHER

NEW

*QNUM 094
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 062000K403
*QUESTION

Given the following:

- Unit 2 is in a Refueling Outage with no fuel in the vessel (defueled).
- All four vital 600V AC busses are energized by their normal feeder breakers.
- To permit maintenance work on Transformer 21B, it is necessary to crosstie 600V AC busses 21B and 21D and de-energize Transformer 21B.
- The BOP operator attempts to close 600V AC crosstie breaker 21BD.
- Breaker 21BD will NOT close.

Which ONE of the following conditions must be met to allow closure of breaker 21BD?

- a. Emergency Power Transformer 12EPI must be feeding Bus 21D.
- b. Transformer Differential HEA on Transformer 21B must be reset.
- c. Normal feeder breaker to bus 21B must be open.
- d. Diesel Generator 2CD must be connected to bus 21D.

*ANSWER

c

*REFERENCE

SOD-08201-001, Emergency Electrical Distribution

MEMORY

BANK

*QNUM 095
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 064000K102
*QUESTION

Given the following sequence of events:

- Unit 1 and Unit 2 were operating at 100% power.
- Unit 1 and Unit 2 East Essential Service Water (ESW) pumps were operating with the Unit Crossties open.
- Unit 2 tripped due to a turbine Electro-Hydraulic Control oil leak.
- Unit 1 remained on line.
- The Unit 2 Reserve Transformers are unavailable.
- Both Unit 2 Emergency Diesel Generators (EDGs) started and loaded; however, Bus T21D failed to energize.

Assuming NO operator actions, which ONE of the following describes the ESW cooling water status for the Unit 2 EDGs?

- a. 2CD EDG must be tripped immediately as ESW cooling has been lost.
- b. 2CD EDG has ESW cooling supplied by the Unit 2 West ESW Pump.
- c. 2AB EDG must be tripped immediately as ESW cooling has been lost.
- d. 2CD EDG has ESW cooling supplied by the Unit 1 West ESW Pump.

*ANSWER

d

*REFERENCE

SOD-01900-001, Essential Service Water

HIGHER

NEW

*QNUM 096
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 064000K607
*QUESTION

Given the following:

- One of the air receivers for the 1CD Emergency Diesel Generator (EDG) has been tagged out for maintenance for the last 8 hours.
- Two hours ago the 1CD EDG was started to verify operability.

Which ONE of the following is the minimum number of starts currently available on the 1CD EDG?

- a. 1 start
- b. 2 starts
- c. 3 starts
- d. 4 starts

*ANSWER

b

*REFERENCE

UFSAR Chapter 8 section 8.4 page 12

MEMORY

BANK

*QNUM 097
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 079000 2.4.34
*QUESTION

Given the following:

- A small fire has damaged the Plant Services Panel in the Unit 2 Control Room.
- The fire has been extinguished and the reactor tripped.
- The Plant Air Header Crosstie Isolation Valves PRV-10, 11, 20, and 21 are all closed.
- Unit 1 is at 100% power with normal Plant and Control Air pressures.
- The Unit 2 Plant Air Compressor and Control Air Compressor control switches are damaged.
- An extra RO has been assigned to help restore Unit 2 Control Air.

Which ONE of the following actions would be the fastest method to have the RO restore Unit 2 Control Air?

- a. Open PRV-20 and PRV-21 using the Unit 2 Main Control Room switches.
- b. Start the Unit 2 Control Air Compressor from the Unit 2 Hot Shutdown Panel.
- c. Open PRV-10 and PRV-11 using the Unit 1 Main Control Room switches.
- d. Start the Backup Plant Air Compressor from the local control panel.

*ANSWER

b

*REFERENCE

02-OHP-4030-STP-049, Hot Shutdown Panel Operability Test

HIGHER

NEW

*QNUM 098
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 103000A404
*QUESTION

Given the following:

- Unit 2 was at 100% power, all systems normal alignment.
- During SSPS surveillance testing, a test error caused an inadvertent SI signal.
- A Safety Injection, Phase A, and Reactor Trip occurred.
- All systems operated as designed during the event.

Which ONE of the following describes the Upper and Lower Containment Ventilation Fan status immediately upon the Phase A reset?

- a. Upper ventilation fans restart. Lower ventilation fans restart.
- b. Upper ventilation fans restart. Lower ventilation fans remain running.
- c. Upper ventilation fans are tripped. Lower ventilation fans remain running.
- d. Upper ventilation fans are tripped. Lower ventilation fans are tripped.

*ANSWER

b

*REFERENCE

02-OHP-4022-034-003, Recovery From Inadvertent Containment Isolation Phase A

02-OHP-4021-028-001, Containment Ventilation

SOD-02800-002, Containment Ventilation

HIGHER

MODIFIED

*QNUM 099
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 007000A101

*QUESTION

Which ONE of the following describes the adverse affects of NO operator action with a leaking pressurizer PORV?

- a. There are NO adverse affects. The PRT is designed to handle continuous in-leakage.
- b. The cyclic temperature stresses in combination with inner wall erosion on the PORV tailpipe may lead to premature piping failure.
- c. The PRT rupture disc may break with subsequent elevated radiation, temperature and pressure indications in containment.
- d. Mechanical breakdown of the PORV seating surface may cause the PORV to fail when needed for overpressure protection.

*ANSWER

c

*REFERENCE

UFSAR Chapter: 4 Page 18

MEMORY

BANK

*QNUM 100
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 007000A203
*QUESTION

Given the following:

- Unit 1 was operating at 100% power when the turbine tripped.
- The reactor failed to automatically trip but was manually tripped.
- All other systems operated as expected.
- The Emergency procedures have been performed and the plant stabilized.
- It was noted that on the transient RCS pressure reached 2370 psig.

Which ONE of the following represents the expected status of the PRT and the actions that must be taken to restore it to normal limits?

- a. PRT Temperature - 100°F, Level - 15%, and Pressure - 14 psig
Open the Vent to depressurize and add water to cool the tank.
- b. PRT Temperature - 140°F, Level - 84%, and Pressure - 12 psig
Reduce level and add water to cool & depressurize the tank
- c. PRT Temperature - 280°F, Level - 82%, and Pressure - 34 psig
Open the Vent to depressurize and add water to cool the tank.
- d. PRT Temperature - 240°F, Level - 95%, and Pressure - 3 psig
Reduce level and add water to cool & depressurize the tank.

*ANSWER

b

*REFERENCE

01-OHP-4022-002-009, Leaking Pressurizer Power Operated Relief Valve

01-OHP-4021-002-006, Pressurizer Relief Tank Operation

HIGHER

NEW

*QNUM 101
 *QDATE 2002/12/09
 *FAC 315
 *RTYP PWR-WEC-4
 *EXLEVEL R
 *KA 008000A301
 *QUESTION

Given the following:

- Unit 2 is in Mode 4 with the West CCW pump operating.
- Repairs were just completed on the West RHR heat exchanger.
- CCW had previously been isolated and drained on the West RHR heat exchanger.
- The Crew restoring the clearance on the West RHR heat exchanger was unaware that the CCW side had previously been drained.
- When the CCW Inlet to the RHR Heat exchanger is opened, CCW system pressure and surge tank level lowers causing the following alarms to annunciate on Panel 204:

Drop 88 - West CCW Surge Tank LVL HI OR LOW
 Drop 89 - East CCW Pump Low Pressure Start-up
 Drop 94 - West CCW pump Discharge Pressure Low
 Drop 98 - East CCW Surge Tank LVL HI OR LOW

Which ONE of the following is the expected status of the CCW pumps and Make-up valves?
 Assume NO operator actions.

	East Pump	West Pump	CRV 410	CRV 411
a.	Running	Stopped	Closed	Closed
b.	Stopped	Stopped	Open	Open
c.	Running	Running	Closed	Closed
d.	Stopped	Running	Open	Open

*ANSWER

c

*REFERENCE

02-OHP-4024-204, Annunciator #204 Response: Essential Service Water And Component Cooling, Drops 88, 89, 94, and 98

HIGHER
 NEW

*QNUM 102
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 045000 2.2.24
*QUESTION

Given the following:

- Maintenance is required on the Unit 2 Main Turbine Stop Valve #3 limit switches.
- The maintenance will involve removal of the limit switch assemblies.
- This activity is expected to take 8 hours.

This activity is acceptable provided...

- a. leads are lifted to prevent Turbine Stop Valve closure from the valve test circuit.
- b. only ONE other Turbine Stop Valve limit switch is inoperable.
- c. another method is provided to the Main Control Room to verify a Turbine Trip per 2-OHP-4023-E-0, Reactor Trip Or Safety Injection.
- d. a signal is inserted to indicate the Turbine Stop Valve is closed to the SSPS cabinets.

*ANSWER

d

*REFERENCE

Tech Spec 3.3.1.1 Reactor Trip Instrumentation Item 18 action 6

HIGHER

NEW

*QNUM 103
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 045000K106

*QUESTION

Which ONE of the following describes the reason for placing the First Stage Pressure Feedback Loop in service during the functional test of the Unit 1 Main Turbine Governor Valves?

- a. Prevents a turbine trip when testing #1 Control Valve with the Exhaust Hood Temperature High alarm is lit.
- b. Prevents a load rise of 50 MW when closing the Control Valve.
- c. Maintains a constant turbine load to prevent reactor temperature changes.
- d. Maintains the Control Valves not being tested at their current position to prevent generator load swings.

*ANSWER

c

*REFERENCE

SD-05001, Unit 1 Main Turbine and Control, Main Turbine Lube Oil, Steam Seal and Exhaust MEMORY
NEW

*QNUM 104
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 078000K301
*QUESTION

Given the following:

- Unit 1 has experienced a Reactor Trip.
- The Pressurizer PORV, NRV-151, opened and did not reclose.
- A Safety Injection was actuated.
- Subsequently, the PORV Isolation NMO-151 was closed.
- The Crew has reset SI and Phase A Containment Isolation and attempted to restore Control Air to Containment.
- The Control Air Containment Isolation Valves failed to open.

Which ONE of the following describes the current status of the plant?

- a. RCS pressure control has been lost (PORVs and Sprays won't open).
- b. RCS Charging is available but Letdown can NOT be restored.
- c. RCP Seal Injection is available but Seal Return can NOT be restored.
- d. RCP CCW cooling water can NOT be restored.

*ANSWER

b

*REFERENCE

01-OHP-4022-064-002, Loss Of Control Air Recovery, Attachments B-1, 2, and 6

HIGHER

NEW

*QNUM 105
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 078000K402
*QUESTION

3F

INPO-MODIFIED

Which ONE of the following is the correct sequence of events that automatically occur in the Control and Plant Air Systems as air pressure lowers?

- a. 95 psig at PPS-10 (20) Standby PAC starts
90 psig CAS wet receiver pressure CAC starts
85 psig at PPS-11 (21) Plant air header isolates
- b. 100 psig at PPS-10 (20) Standby PAC starts
95 psig CAS wet receiver pressure CAC starts
90 psig at PPS-11 (21) Plant air header isolates
- c. 100 psig CAS wet receiver pressure CAC starts
95 psig at PPS-10 (20) Standby PAC starts
90 psig at PPS-11 (21) Plant air header isolates
- d. 95 psig at PPS-10 (20) CAC starts
90 psig at PPS-11 (21) Standby PAC starts
85 psig CAS wet receiver pressure Plant air header isolates

*ANSWER

a

*REFERENCE

SOD-06401-002, Plant Air System

MEMORY

MODIFIED

*QNUM 106
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.1.10
*QUESTION

Given the following:

- You are the Unit Supervisor
- A Loss of offsite power has occurred.
- All Emergency Diesel Generators started and energized the busses as required.
- An RCS Leak inside containment has damaged the RHR pump suction from Loop 2 hot leg valve ICM-129.
- The plant is being cooled down to Cold Shutdown per the Electrical Power and RCS leakage Tech Spec Action Statements.
- Tech Spec 3.4.1.3, Hot Shutdown, requires 2 RCS loops to be operable and 1 in operation for Mode 4 Operation.
- The STA states that you should stabilize the plant at 375°F and NOT enter Mode 4.

Do you agree or disagree and why?

- a. Agree, Tech Spec 3.0.4 prohibits mode changes if all applicable tech specs for that mode are not met.
- b. Agree, without RCPs operating and no RHR for cooldown it will not be possible to maintain RCS temperature less than 350°F on SG PORVs.
- c. Disagree, a standing Notice of Enforcement Discretion is in place to allow the plants to continue to lower modes even if they don't meet all Tech Specs.
- d. Disagree, Tech Spec 3.0.4 allows you to pass through modes without meeting all conditions if you are complying with a required action statement of another Tech Spec.

*ANSWER

d

*REFERENCE

Tech Spec 3.0.4

HIGHER

NEW

*QNUM 107
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 194001 2.1.16

*QUESTION

3F

NEW

The Unit 1 operator noted that the Control Room Radio Console has gone into transmit lockout because an in-plant radio had the transmit button depressed for greater than one minute (it was placed in an operator's pocket).

Which ONE of the following would restore radio communications with all of the in-plant operators?

- a. Broadcast over the Unit 1 Control Room Radio Console using the emergency transmit button to have all operators state their name and location without keying their radio. The operator who broadcasts is the one with the stuck button.
- b. Broadcast over the Page to have all operators switch to an alternate channel and switch the main console to that channel. Have all portable radio users contact the Control Room to search for the keyed radio.
- c. Broadcast over the Unit 2 Control Room Console to have all operators state their name and location without keying their radio. The operator who broadcasts is the one with the stuck button.
- d. Broadcast over the Page to have all operators select the emergency channel. The emergency channel does NOT have a transmit lockout.

*ANSWER

b

*REFERENCE

PMP-4010-COM-001, Verbal Communications Section 3.8

MEMORY

NEW

*QNUM 108
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 194001 2.1.23
*QUESTION

Given the following:

- Unit 1 has operated at 75% power for the last 10 days.
- Prior to this the Unit was at 90% power for 1 month.
- A FW Heater has just been returned to Service following tube repairs.
- Preparations are under way for a power ascension when the System Load Coordinator requests that power be raised to 90% as quickly as possible due to the loss of other units.
- 01-OHP-4021-001-006, Power Escalation, Precautions and Limitations, ATTACHED

Which ONE of the following is the shortest time it will take to reach 90% power without exceeding the procedural requirements of 01-OHP-4021-001-006, Power Escalation. Assume all required surveillances and approvals are satisfied and the Power Escalation Briefing is complete.

- a. 15 minutes
- b. 1.5 hours
- c. 2 hours 10 minutes
- d. 5 hours

*ANSWER

b

*REFERENCE

01-OHP-4021-001-006, Power Escalation, section 3.7

HIGHER

NEW

*QNUM 109
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 194001 2.1.3
*QUESTION
2H
NEW

You have reported for duty as the Unit 2 Reactor Operator on Sunday November 10. Your previous duty stations and days off are shown below:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
11/3	11/4	11/5	11/6	11/7	11/8	11/9
Unit 1	Unit 2	Unit 2	Unit 1	Extra RO	Off	Off

Prior to accepting the watch, you must review certain documents per the turnover procedure. Which ONE of the following correctly identifies how far back you must review the listed documents?

- | | | | |
|----|---------------|-----------------|---------------|
| | Unit 2 CR Log | Standing Orders | Unit 1 CR Log |
| a. | Thursday 11/7 | Thursday 11/7 | Not Required |
| b. | Saturday 11/9 | Saturday 11/9 | Saturday 11/9 |
| c. | Sunday 11/3 | Not Required | Sunday 11/3 |
| d. | Tuesday 11/5 | Thursday 11/7 | Not Required |

*ANSWER

d

*REFERENCE

OHI-4012, Watch Station Turnover
HIGHER
NEW

*QNUM 110
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL SRO
*KA 194001 2.1.34

*QUESTION

Chemistry has been continuously monitoring Unit 2 SG chemistry levels for the last 5 days since identifying elevated Sodium and Chloride readings. The following sample results have been obtained: (Assume values made step changes at the time sampled)

Day/Time	Power Level	Sodium (ppb)	Chloride (ppb)	Sulfate (ppb)
Tuesday / 10am	100%	25	57	6
Tuesday / 10pm	28%	22	58	3
Wednesday / 10am	28%	22	58	3
Wednesday 10pm	28%	22	58	3
Thursday / 10am	28%	29	58	3
Thursday / 10pm	28%	32	47	3
Friday / 10am	28%	44	44	3
Friday / 10pm	28%	52	33	3
Saturday / 10am	28%	52	34	3

Which ONE of the following actions are required? (Refer to 12-THP-6020-CHM-201, Steam Generator Chemistry attached.)

- Restore Sodium to <50ppb by Monday at 10 PM or shutdown the plant.
- Restore Sodium to <10ppb and Chloride to <10ppb by Tuesday 10 AM or shutdown the plant.
- Shutdown as quickly as possible and clean up by feed and bleed or drain and refill.
- Maintain current power levels. Shutdown is not required for the current conditions.

*ANSWER

c

*REFERENCE

12-THP-6020-CHM-201, Steam Generator Chemistry
HIGHER
NEW

*QNUM 111
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.1.7
*QUESTION

Given the following:

- You have just assumed the watch on Unit 2.
- The Unit reached 100% power 2 hours ago.
- Rod control is in MANUAL due to rising Xenon.
- Shortly after assuming the watch, you observe the following abnormal plant indicators:

Reactor Coolant System Temperature has rapidly lowered approximately 3°F.
S/G Level Deviation annunciators are illuminated.
Charging Flow Control Valve position is rising.

Which ONE of the following events is the most likely cause of these indications?

- a. Excessive load rise
- b. Dropped control rod
- c. Turbine Control Valve shut
- d. Rising Xenon

*ANSWER

a

*REFERENCE

02-OHP-4024-211, Annunciator #211 Response: Delta T, Drop 20 Tavg Low Tavg<Tref
HIGHER
MODIFIED

*QNUM 112
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 194001 2.2.12
*QUESTION

Given the following:

- On your shift, a monthly surveillance item is discovered overdue.
- Required due date was November 25th.
- Assume today is November 30 and the performance of the Surveillance Test has begun.
- The previous surveillance tests for this component/system were Due and Completed as shown below.

Due Date	Completed Date
September 8	September 7
October 5	October 2
October 30	October 28

Which ONE of the following statements describes the status of the component/system and the justification for that status?

- a. The surveillance test has been missed and the component/system must be declared INOPERABLE until the test is verified completed satisfactorily.
- b. The component/system is OPERABLE because the Technical Specifications allow a time extension which has not been exceeded.
- c. The component/system is INOPERABLE because 3.25 times the time interval for three consecutive tests has been exceeded.
- d. The component/system is OPERABLE because the Technical Specifications allow time from previous early performances to be carried forward.

*ANSWER

b

*REFERENCE

Technical Specification - Section 4; PMP-4030-EXE-001, Conduct Of Surveillance Testing
HIGHER
MODIFIED

*QNUM 113
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.2.19
*QUESTION

Given the following:

- A packing leak has been identified on WCR-951, NESW to RCP Air Cooler.
- The WIN team supervisor states that his team can tighten the packing and stop the leak as Minor Maintenance .

Is this activity acceptable for the WIN team to perform and why/why not?

The activity is...

- a. acceptable as long as a stroke test is performed post maintenance.
- b. acceptable as long as they are accompanied by an AEO.
- c. NOT acceptable because Minor Maintenance is not allowed on Tech Spec equipment.
- d. NOT acceptable because this valve can not be closed at power even for a short time.

*ANSWER

c

*REFERENCE

PMP-2291-INT-001, Work Control Activity Initiation Process

HIGHER

NEW

*QNUM 114
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 194001 2.2.26
*QUESTION

Given the following:

- Refueling is underway in Unit 2.
- Used fuel assemblies are being moved into the Spent Fuel Pit.
- The Equipment Hatch is installed with four bolts in place.
- Both upper containment airlock doors are open with cables running through the upper airlock.
- Quick disconnects are installed on each line running through the upper airlock and all procedural requirements for lines through the airlock are met.
- All containment penetrations directly to the outside atmosphere are isolated with a manual valve or are blind flanged.

Which ONE of the following describes the containment / refueling integrity status?

- a. Containment Integrity exists; but refueling must be stopped.
- b. Refueling Integrity exists; refueling may continue.
- c. Containment Closure capability does NOT exist; but refueling may continue.
- d. Refueling Integrity does NOT exist; refueling must be stopped.

*ANSWER

b

*REFERENCE

T.S. 1.0, Definitions; T.S. 3.9.4, Containment Building Penetrations
PMP-4100-SDR-001, Plant Shutdown Safety And Risk Management, Attachment #2
2-OHP-4030-STP-041, Refueling Integrity
HIGHER
BANK

*QNUM 115
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 194001 2.2.3

*QUESTION

Which ONE of the following describes the Mode 1 standby readiness alignment for the TDAFW pump discharge valves?

- a. Both Units valves should be in the FULL OPEN position.
- b. Both Units valves should be in the THROTTLED position.
- c. The Unit 1 valves should be in the THROTTLED position. The Unit 2 valves should be in the FULL OPEN position.
- d. The Unit 1 valves should be in the FULL OPEN position. The Unit 2 valves should be in the THROTTLED position.

*ANSWER

c

*REFERENCE

01(02)-OHP-4021-001-006, Power Escalation; 12-OHP-4023-ECA-0-0, Loss Of All AC Power
MEMORY
NEW

*QNUM 116
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.2.6

*QUESTION

Which ONE of the following represents an Intent Change to a procedure?

- a. Changing the Acceptance Criteria for the Close stroke time of 1-FRV-240, #4 SG Feedwater Reg Valve, from 60 seconds to 90 seconds.
- b. Deleting the steps to align ESW to a cooler when the Initial Conditions already require ESW to be aligned and operating.
- c. Changing the referenced procedure from 1-OHP-4021.001.001, Plant Heatup to 1-OHP-4021-001-001, Plant Heatup From Cold Shutdown to Hot Standby.
- d. Changing the position title from Operations Manager to Operations Director without changing responsibilities.

*ANSWER

a

*REFERENCE

PMP-2010-PRC-002, Procedure Correction, Change, and Review, Attachment 1

MEMORY

BANK

*QNUM 117
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.3.1
*QUESTION

Given the following:

- The # 11 Steam Generator is being drained through the Blowdown System for an inspection when the R-19, Steam Generator Blowdown Monitor, fails terminating the (batch) release.
- The DRS 3100, Steam Generator Blowdown Monitor, is out-of-service.

Which ONE of the following provides an acceptable method to recommence draining the Steam Generator per PMP-6010-OSD-001, Off-site Dose Calculation Manual?

Draining may recommence provided...

- a. grab samples have been analyzed and found to be $<10 \text{ E-7 uCi/gram Dose Equivalent I-131}$ at least once per 30 days.
- b. grab samples have been analyzed and found to be $<0.01 \text{ uCi/gram Dose Equivalent I-131}$ at least once per 24 hours.
- c. at least 2 independent samples have been analyzed and the discharge lineup has been independently verified by 2 AEOs.
- d. the flow rate has been estimated using pump curves and valve settings.

*ANSWER

c

*REFERENCE

PMP-6010-OSD-001, Off-site Dose Calculation Manual, Attachment 3.2 page 46-47.

HIGHER

NEW

*QNUM 118
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 194001 2.3.11

*QUESTION

The control room operators are responding to a Steam Generator Tube Rupture. In order to cool down the RCS and establish required subcooling margin, the operators dump steam to the condenser using the intact SGs.

Which ONE of the following describes why this method of RCS cooldown is preferred over dumping steam through the PORVs of the intact SGs?

- a. Minimizes radiological releases.
- b. Minimizes thermal shock to the reactor vessel.
- c. Minimizes shrink experienced by the RCS.
- d. Minimizes RCS subcooling requirements.

*ANSWER

a

*REFERENCE

12-OHP-4023-E-3, Steam Generator Tube Rupture Background
MEMORY
BANK

*QNUM 119
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 194001 2.3.2

*QUESTION

A point source in containment is reading 500 mRem/hr at a distance of two (2) feet. Two options are available to complete a mandatory work assignment near this radiation source:

Option 1 - ONE operator can perform the assignment in forty (40) minutes working at a distance of three (3) feet from the source.

Option 2 - TWO operators, trained in the use of special extension tooling, can perform the assignment in seventy (70) minutes at a distance of six (6) feet from the source.

Which ONE of the following is the preferred option and resulting total dose when considering the total exposure based on the ALARA plan?

- a. Option 2, which results in total exposure of 0.112 MAN-REM.
- b. Option 2, which results in total exposure of 0.131 MAN-REM.
- c. Option 1, which results in total exposure of 0.149 MAN-REM.
- d. Option 1, which results in total exposure of 0.222 MAN-REM.

*ANSWER

b

*REFERENCE

RO-C-RP01, Biological Effects and Radiation Dose

HIGHER

MODIFIED

*QNUM 120
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.3.4
*QUESTION

The following Cook Plant dose histories exist for four operators: (No dose has been received from other sites)

Operator	David	James	Lyle	Timothy
Deep Dose Equivalent (DDE)	1.897 rem	1.929 rem	1.888 rem	1.861 rem
Shallow Dose Equivalent (SDE)	23 mrem	118 mrem	39 mrem	120 mrem
Committed Dose Equivalent (CDE)	1.668 rem	1.845 rem	1.767 rem	1.819 rem
Committed Effective Dose Equivalent (CEDE)	64 mrem	17 mrem	69 mrem	89 mrem

An Activity in Containment requires 2 operators to work in an area with a dose rate of 140 mrem/hr for 20 minutes.

Which ONE of the following set operators would EXCEED their annual Administrative Dose Limit (ADL) for Total Effective Dose Equivalent (TEDE) if assigned to perform this activity?

- a. David and James
- b. David and Lyle
- c. James and Timothy
- d. Lyle and Timothy

*ANSWER

b

*REFERENCE

PMP-6010-RPP-100, Radiation Exposure Monitoring, Reporting, and Dose Control

THP-6010-RPP-101, Preparation And Control Of Exposure Records And Reports

HIGHER

MODIFIED

*QNUM 121
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.3.8
*QUESTION

Given the following:

- You are the Unit 1 Unit Supervisor.
- A release of the #7 Gas Decay Tank is in progress.
- The Auxiliary Building Exhaust Fan status is as follows:

1-HV-AX-1-Running
1-HV-AX-2-Off
2-HV-AX-1-Running
2-HV-AX-2-Running

- Auxiliary Building Exhaust Fan 1-HV-AX-1 Trips.

Which ONE of the following describes your response concerning the release due to 1-HV-AX-1 tripping?

- a. Notify the WDS operator to VERIFY that RRV-306, Waste Gas Decay Tank Release Valve has AUTOMATICALLY tripped closed.
- b. Notify Unit 2 to monitor the release since it is all going out the Unit 2 Vent Stack through the 1-HV-AX-VD-3, Aux Building Ventilation Exhaust Plenum s Crosstie Damper.
- c. Instruct the Unit 1 operator to close 1-HV-AX-VD-3, Aux Building Ventilation Exhaust Plenum s Crosstie Damper to direct the release through the Unit 2 Vent stack.
- d. Notify the WDS operator that he must MANUALLY close RRV-306, Waste Gas Decay Tank Release Valve since dilution flow has been reduced.

*ANSWER

a

*REFERENCE

12-OHP-4021-023-002, Release Of Radioactive Waste From Gas Decay Tanks
MEMORY
MODIFIED

*QNUM 122
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 194001 2.3.9

*QUESTION

Prior to aligning the Containment Purge System for Clean-up operation, 01-OHP-4021-028-005, Operation Of The Containment Purge System, requires the Upper Containment Purge Supply dampers to be opened if Containment Pressure is less than 0 psig.

Which ONE of the following describes the basis for this step?

- a. Technical Specifications require Containment pressure to be greater than 0 psig at all times.
- b. Prevent a negative pressure from adversely affecting the radiation monitor readings.
- c. Containment Exhaust Dampers are interlocked to close when containment pressure is less than 0 psig.
- d. Prevent Ice Condenser doors from opening when initiating containment purge.

*ANSWER

d

*REFERENCE

01-OHP-4021-028-005, Operation Of The Containment Purge System, Attachment 1, step 1.1

MEMORY

NEW

*QNUM 123
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.4.1
*QUESTION

The following plant conditions exist:

- A valid reactor trip signal has been received.
- The crew has entered OHP-4023-FR-S-1, Response to Nuclear Power Generation, from step 1 of OHP-4023-E-0, Reactor Trip Or Safety Injection.
- The main turbine is tripped.
- Emergency boration is in progress.
- The reactor has been tripped locally and the rods have inserted.
- All SG Narrow Range levels are 6% and lowering.
- NO AFW pumps are running.
- RCS pressure is 2285 psig.

Which ONE of the following is the required crew response to the above conditions?

- a. Open Pressurizer PORVs to lower pressure to 2135 psig to enhance boration flow. Transition to OHP-4023-E-0 at the completion of OHP-4023-FR-S-1.
- b. Perform the remainder of OHP-4023-FR-S-1 and then transition to OHP-4023-FR-H-1, Response to Loss of Secondary Heat Sink.
- c. Immediately transition to OHP-4023-FR-H-1, Response to Loss of Secondary Heat Sink, since the reactor is now tripped.
- d. Manually initiate Safety Injection and transition to OHP-4023-E-0.

*ANSWER

b

*REFERENCE

OHI-4023, Abnormal / Emergency Procedure User's Guide, Attachment 5

½-OHP-4023-F-0-3, Heat Sink CSF Status Tree

HIGHER

MODIFIED

*QNUM 124
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL B
*KA 194001 2.4.10
*QUESTION

Given the following:

- A loss of offsite power has occurred on Unit 1.
- You are an extra Operator and are assigned to address the Annunciators on Panel 119, Station Auxiliary AB.

Which ONE of the following would you address FIRST based on the OHI-4024 Annunciator Priority system?

The Annunciator with ...

- a. a Red C on the lens.
- b. a Red lens with a Purple slash.
- c. a slash in the lower right corner of the lens.
- d. an Orange dot on the lens.

*ANSWER

b

*REFERENCE

OHI-4024, Annunciator Response

MEMORY

NEW

*QNUM 125
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 194001 2.4.19

*QUESTION

You are a Unit 2 BOP and have been assigned to restore Emergency Diesel Generator power per 02-OHP-4023-SUP-012, Restoring DG Power. You are currently at step 12 and have determined that the 600 Volt Bus 21C is NOT energized. T21C is energized. Step 12 reads as follows:

12. Check 600 Volt Bus 21C - Perform the following:
ENERGIZED

a. IF T21C is energized, THEN perform the following:

1) Check Bus 21C NOT faulted by the following annunciators clear:

"TR21C Differential Operated" (Panel 220, Drop 88)

"TR21C 600V CB 21C1 Trip" (Panel 220, Drop 89)

"600V Bus 21C Ground" (Panel 22)

IF T21C is energized, THEN perform the following:

2) IF Bus 21C is NOT faulted, THEN close 21C1, Incoming Feed From Transformer TR21C.

Which ONE of the following is correct concerning the performance of this step?

Annunciator Panel 220 Drops 88, 89, and 90 ...

- a. must be checked clear in the order given prior to closing 21C1.
- b. must be checked clear in any order given prior to closing 21C1.
- c. are checked and if at least 1 is clear then breaker 21C1 may be closed.
- d. are optional, and do NOT need to be checked prior to closing 21C1 if you know the b bus is not faulted.

*ANSWER

b

*REFERENCE

OHI-4023, Abnormal / Emergency Procedure User's Guide, Attachment 1 Section 3

MEMORY

NEW

*QNUM 126
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.4.26

*QUESTION

Work is required to be performed in an area protected by automatic CO2 fire suppression. The job supervisor requests that the affected CO2 system be isolated because of the location and nature of the work?

Which ONE of the following describes the minimum required actions per the Administrative Technical Requirements (ATRs)?

- a. The affected CO2 system may be isolated provided fire detection in the zone is verified operable.
- b. The affected CO2 system may NOT be isolated. An escape route must be established to allow for a quick exit and barriers should be provided to prevent the work activities from actuating the detectors.
- c. The affected CO2 system may be isolated provided the fire brigade is stationed nearby with alternate suppression equipment.
- d. The affected CO2 system may NOT be isolated. The associated detectors must be covered and a continuous fire watch provided.

*ANSWER

a

*REFERENCE

ATR 1-FP-5, Low Pressure CO2 Systems, Action A.

MEMORY

NEW

*QNUM 127
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL S
*KA 194001 2.4.49
*QUESTION

Given the following:

- A LOCA has occurred on Unit 1.
- 1-OHP-4023-E-0, Reactor Trip Or Safety Injection, is being implemented.
- South SI Pump was tagged out for Maintenance.
- West CCP tripped on overcurrent.
- Containment pressure is 3.6 psig.
- Power is lost to Bus T11A.
- RCS pressure is 1350 psig.
- All systems responded normally to actuation signals.

Which ONE of the following actions should be taken regarding Reactor Coolant Pump (RCP) trip criteria?

- a. The RCPs should be stopped because Phase B isolation has occurred.
- b. The RCPs should be stopped to limit heat addition to the RCS.
- c. The RCPs should NOT be stopped because no SI pumps or CCPs are running.
- d. The RCPs should NOT be stopped because RCS pressure is above the foldout page trip criteria.

*ANSWER

a

*REFERENCE

01-OHP-4023-E-0, Reactor Trip Or Safety Injection, Foldout Page
HIGHER
BANK

*QNUM 128
*QDATE 2002/12/09
*FAC 315
*RTYP PWR-WEC-4
*EXLEVEL R
*KA 194001 2.4.9

*QUESTION

During performance of 02-OHP-4022-002-015, Mode 4 LOCA, the RHR Pumps are checked to see if they are aligned in the ECCS Mode.

If they are NOT, then RCS Hot Leg temperature is checked to see if it is greater than 185°F.

If the Hot Leg is greater than 185°F, then Attachment B, Cooling RHR Suction Piping, is performed before the RHR Pumps are aligned to the ECCS Mode.

Which ONE of the following is the reason it is important to cool the RHR Suction Piping before aligning the RHR Pumps to the ECCS Mode?

- a. Prevent hot water injection into the core further degrading the core cooling situation.
- b. Prevent flashing in the RHR suction piping and possible RHR pump damage.
- c. Avoid potential PTS concerns on the RCS cold leg injection piping.
- d. Prevent flashing in the CCW side of the RHR Heat Exchanger and subsequent steam binding of the CCW System.

*ANSWER

b

*REFERENCE

02-OHP-4022-002-015, Mode 4 LOCA

MEMORY

BANK

*END